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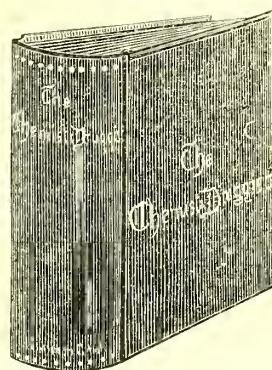
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WE append a sketch of the reading ease which we are now supplying. It is in black cloth with gilt letters. In it a quarter's copies of THE CHEMIST AND DRUGGIST can



be conveniently kept. We sell it for 1s. delivered free to any City house (we cannot deliver beyond the City), or we send it by parcels post for 1s. 3d.

MR. EDMUND JOHNSON, manager of the Trade Mark Protection Society, writing to the *Times* on the subject of recent decisions in trade-mark law, asserts that the Comptroller in refusing to accept as "fancy" words, dictionary words, even where these are not descriptive and are employed in other than their dictionary meaning, is guided by unpublished instructions from the Board of Trade. If this be so, the importance of the late decision in the "Normal" case, which limits the right of appeal from the Comptroller's decisions except with the express sanction of the latter body, is enormously increased. The Board of Trade would appear to have interpreted the Act in a sense directly opposite to that which has commended itself to several of our ablest judges, and have now secured power to enforce their interpretation, uncontrolled. If this be their intention, Mr. Johnson says, nothing remains but to agitate until an amended Bill to effect what is necessary be introduced and passed in Parliament.

POST-CARD COMPETITION—No. 6.

A CHEMIST'S LIBRARY.—We wish to get from chemists and druggists a general idea of the books found most useful for reference in the shop, at the counter, at the desk, and in the laboratory. A chemist's business ramifies in many directions, and, to be properly carried out, each section needs its manual. We shall be very glad if anyone, whether in competition or not, will send us the titles of books which have been found serviceable in any department of the business, and we will give a guinea to the competitor who sends us what in our judgment is the best assorted list of works for a chemist and druggist's reference library.

The books should include not only general formulæ works and some treatise on pharmacy, but also works serviceable to the counter prescriber, the dental practitioner, the veterinarian, and the dealer in such goods as oils, colours, dyeing, and bleaching articles, &c. On the other hand we do not wish to include simply educational books, nor trade lists, and we also specially exclude periodical publications. The necessity of THE CHEMIST AND DRUGGIST is understood by all the most intelligent firms in the trade.

No list should name more than twenty books, the titles should be given exactly, and price and publisher may be named if they are known, but we shall not regard these items as essential. We shall prefer to receive lists on post-cards.

Cards for this competition will be received until September 4.

REFERRING to another point raised in our article last week on Trade Mark Law—namely, as to whether a trader gets any real benefit by registering his trade mark under the Act which he could not get in common law without such registration, we have received the following opinion from a competent legal authority:—Before statutory enactments, a trade mark was acquired at common law by user, and the knowledge of user in the market, and on infringement the Court of Equity had jurisdiction annular to the legal right of the owner of the mark. By the Trade Marks Acts, 1875-7, registration became necessary; or in the case of an old mark a certificate of refusal to register, before the Court would interfere; and now by the 1883 Act the registration is compulsory in the case of an old mark capable of registration. In the case of *Hazzopulo v. Kaufmann*, decided in 1879, it was held that if the owner of a trade mark is unable when suing an infringer to produce a certificate of registration, or of refusal to register, his remedy is barred, even though he has made application for registration, and only failed to obtain it because of delay in the Trade Mark Registry Office.

THE Belgian pharmacists who organised the International Pharmaceutical Congress last year had an audience of King Leopold on Monday last, when they presented to His Majesty a richly-bound volume containing a full report of the proceedings of the Congress. It is not recorded whether the royal pharmacist congratulated his visitors on the promptitude with which they had completed the work, but it should be noted to their credit that they have succeeded in thus producing their report just within a year.

AMERICAN PHARMACEUTICAL ASSOCIATION.—This institution will meet at Providence, R.I., on September 7-10 next, and it is anticipated that there will be a good muster of members and a fair supply of papers. As usual, there will be much entertaining in the evenings, and, in addition to a theatrical performance, music, and recitations, an illustrated lecture by Professor P. W. Bedford, on "Summer Rambles at Home and Abroad," will be delivered. Professor Remington will be present, and he, no doubt, will be able to tell the members about his summer rambles.

GROCERS AND CHEMISTS.—Why should Italian warehousemen sell patent medicines? An apothecary would be more than human if he could calmly witness the most profitable part of his business poached upon. To the sin of selling decoctions and lotions and washes and pills, the grocer has added the deadlier sin of "cutting" prices. An elixir which (whatever other virtues it possessed) put sevenpence into the chemist's pocket can now be had at the small-profits-and-quick-return shop of Blue, Butter & Co. The pestle and mortar have elaborated a scheme of revenge. Parliament is to be petitioned for an enactment that grocers should no longer sell patent medicines. The petition, of course, will not take this form. A Bill is to be introduced to amend the law as to the sale of poisons, and its provisions will be so comprehensive that every patent medicine containing even a savour of opium or belladonna or other narcotic should be unsaleable by grocers. The preliminary plea is most plausible. "You compel chemists to make careful inquiries before selling a pennyworth of laudanum, and you let a grocer sell precipitate—a penny packet would poison a whole town—without let or hindrance." This rod for the grocer's back has been in pickle for some time. It will be his next trouble, probably.—*Evening Standard.* [This is a specimen of enterprising journalism. The Bill to which allusion is apparently made was the one drawn up by the Pharmaceutical Council about three years ago, subsequently submitted to the Privy Council, and afterwards rejected by Government and abandoned by its authors. Or the reference may be to some of the brilliant Mr. Warton's legislative aspirations; or, perchance, to Lord Carlingford's statesmanlike attempt to settle the poisons difficulty. In either case the news comes at least eighteen months after the event.]

CELEBRATION OF CHEVREUL'S CENTENARY.—The date of the celebration, definitely settled, is August 31. The Jardin des Plantes, where most of the festivities will take place, is being rapidly made ready for the ceremonies. A grand banquet will be given there in an immense hall to be decorated at the expense of the State. The Garde-Meuble will supply everything needed, even up to the épergnes for the tables. The popular feature of the celebration will be a torchlight procession, which is to start from the Luxembourg gardens, and thence through the Boulevard St. Michel, the squares of the Hôtel de Ville and of the Bastille, and the Austerlitz bridge to the Jardin des Plantes. On Tuesday last the celebration committee, mainly members of the press, held an important meeting to settle the details of the ceremonies. In a few days the official programme will be communicated to the newspapers. In the meantime subscriptions continue to be received at the committee's head-quarters, 62 Rue de Provence.

DIARY FOR NEXT WEEK.

Tuesday, August 24.

Public sales of drysalteries at the Commercial Sale Rooms, Mincing Lane, at 1 P.M.

Public sales of cinchona bark at 6 Mincing Lane, at 1 P.M.

Wednesday, August 25.

Public sales of spices at the Commercial Sale Rooms, Mincing Lane, at noon.

Thursday, August 26.

Public sales of gums at the Commercial Sale Rooms, Mincing Lane, at 11.30 A.M.

ADVERTISEMENTS of employers and assistants can now be received by us up to the first post on Friday mornings, and will be inscribed in the current week's issue.

AT THE COUNTER.

IN THE STATES.—In some of the temperance towns of the United States, says a Transatlantic contemporary, thirsty customers exhaust the resources of ingenious misrepresentation and wilful lying to obtain "One pint of whisky and five cents' worth of camphor (done up separately) to make camphor for the old woman." There, also, such orders as the following, states Mr. S. E.; Naples, Ill., are frequently presented at his counter: "5 cs worthe leudnionn, 5 cs worthe calimoll, 10 cs moirphynn."

* *

A CORRESPONDENT of the *National Druggist* has had the following medical prescription to dispense:

this the 4 Day of may this 1886 A Receipt for cureing fever And Chills first Clens the Stumich And liver with the Purgative Pills from 3 two six giv at Bedtime—

MIXTURE OF THE WHISLERS.

Won-forth Rhubarb, $\frac{1}{2}$ oz

Won-forth Aloës, $\frac{1}{2}$ oz

Won-forth Leptandrin, $\frac{1}{2}$ oz

Won-forth Podophylm, $\frac{1}{2}$ oz

Mixt those twogether

Chill tonic Mixture two Brake the fever And Chills giv from 10 two 30 drops Every 2 hours Commence 4 hours Before Chill time the followin Salution Won Pint of Spirits of Camphor

Camphor, won 1 Pint spirits

Spirits of Lavender, won $\frac{1}{2}$ oz

Creosote, won $\frac{1}{2}$ oz

Oil Sassafras, won $\frac{1}{2}$ oz

Pulverize Dogwood, won $\frac{1}{2}$ oz

Mix those twogether— Shake well before using—Won half hour Before Chill time Rub the feet, And the face And the hand—And the small Part of the Back then Rop up in the Bed won hour After Chill time this will kepe

Any Chill—

Given under My hand And Seal

JAMES M. STAMPILL, M.D.

* *

A CHINESE doctor opened a shop, but for a long time had no customers; at last one came. When supplying his wants, the vendor observed that the drug was full of weevils. "What is this?" said the buyer. "Kiang tsan" (medicinal larvæ), replied the doctor. "But," said the man, "Kiang tsan are always dead." "Yes," said the doctor, "but you see they could not remain dead after eating my medicine."

* *

[SCENE—Northern Pharmacy, August 14. Carriage at the door.]

Lady Customer enters. "How long will it take you to make up this prescription?"

Chemist. "About ten minutes."

L. C. Leaves, and returns in about an hour; inquires, "Is my medicine ready?"

C. "Yes, ma'am." Hands the bottle.

L. C. "How much is it?"

C. "Eightpence, please."

L. C. "I only pay sixpence in London."

C. Politely smiles and modestly bows, without venturing any reply.

L. C. Pays eightpence, and departs.

C. Left to ruminate upon the iniquities of London and elsewhere. Eightpence—aye, eightpence—he thought was a modest sum for the care he had bestowed upon that prescription; but, alas! all his care in entering, stamping, enclosing in envelope, sealing, labelling, and neatly folding was to be rewarded with, "I only pay sixpence in London."

The prescription in question was written by a London physician, and consisted of tr. einch. flav., 5iss., in teaspoonful doses, and had been dispensed at the Army and Navy Stores.

J. N.

THE British Hop-Pack Company, of Three Crown Square, Southwark, have shown us some new hops in their compressed packets. These are of foreign origin, and singularly rich in aroma. They also show us a compressed packet of hops which have been packed over twenty years. The aroma has departed, but there is no trace of mould, and the taste is almost as perfect as ever, showing how well the hops are kept in this form.

Metropolitan Reports.

CHARGE OF FRAUD ON THE REVENUE—MUTILATING PATENT-MEDICINE STAMPS.—At Marylebone Police Court on Friday, August 13, Edward John Wall, 26, a chemist and druggist, of 137 Queen's Crescent, Kentish Town, was brought up by Detective-Inspector Dodds charged with knowingly and unlawfully and without excuse having in his possession twenty-five stamps, which had been fraudulently mutilated contrary to the statute 33 & 34 Vict., cap 98, section 18, subsection 8. Mr. J. T. Squire, Solicitor's Department, Somerset House, appeared to prosecute, and in opening the case pointed out that for offences under the Act the *maximum* punishment was penal servitude for life, and the *minimum* five years' penal servitude. On July 7 an officer of Inland Revenue purchased some medicine, which should be stamped, at the prisoner's shop, and on examination it was found that the inland Revenue stamp, which should have been on the bottle in a whole condition, was cut across the middle so as to be used for two bottles instead of one, thereby defrauding the Government of $\frac{3}{4}d$. He also bought a box of pills with a similarly mutilated stamp on it. On July 29 and on August 1 and 11 other purchases were made with similar results. Under the circumstances a search warrant was applied for on Thursday, and on the premises being examined mutilated stamps were found on eleven small bottles, eight on larger bottles, four on pill-boxes, and two on empty bottles. Mr. Denzil Thompson was supposed to be the proprietor of the shop, but it would be shown that the prisoner and a partner were the proprietors. Jonathan Link, an Inland Revenue officer, having been examined, Inspector Dodd, Y division, said he went to the shop, 137 Queen's Crescent, and saw the prisoner, who said that Mr. Thompson had gone away and that he was the manager. The prisoner took him and Sergeant Ottway to a drawer in the shop, where they found stamps and bottles, on which there were mutilated stamps, one stamp being made to serve for two bottles. Mr. de Lutzen ordered a remand, and offered to admit the prisoner on bail in two sureties of 100*l.* each and himself in a double amount, with notice to the police.

CARBOLIC ACID FOR CLARET—FATAL MISTAKE.—On Tuesday Dr. Danford Thomas, coroner for Central Middlesex, held an inquest at the Ossington Coffee Tavern, Paradise Street, Marylebone, respecting the death of Thos. Knight, aged forty, an engineer, lately residing at 26 Nutford Place, Marylebone. Eliza Knight, the widow, stated that the deceased for some years had been suffering from consumption, and not being so well of late he had been under medical treatment. On Friday last he was so ill that he was in bed, and in the evening, having been up some nights, the witness lay down to get some rest. The following morning early she was roused up, and was then informed that the deceased having asked for something to drink, her sister had in mistake for claret mixed some carbolic acid with the lemonade, and given it to the deceased. A medical man was at once called in, but the deceased expired about four hours afterwards. The Coroner said that he was sorry to state that this kind of case was very common. Such dangerous poisons as these should be put into special poison-bottles, but often they were put into ordinary bottles. The jury returned a verdict of "Death from misadventure."

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BIRMINGHAM.

OUR notice of the transfer of a business here last week was wrong in two particulars. The sellers were Messrs. McIsaac & Co., not Mrs. McIsaac; and the buyer was Mr. Ferriday, not Mr. Fereday.

BIRMINGHAM TREATMENT OF WHOOPING-COUGH.—A correspondent of one of the daily papers, who keeps a shop

near the centre of the town, writes that the other day a woman came to his shop and gave a valuable dog of his a piece of bread and butter. After the dog had eaten it she told my informant that she had placed between the bread and butter a hair cut from her child's head. She explained that she had done this because her child had the whooping-cough, and that this proceeding was an unfailing specific for that disease. The proprietor of the animal objected to the operation, which, he pointed out, might result in his valuable dog catching the whooping-cough.

A DRUGGIST WITH FOUR COATS.—Mr. John George Snape, druggist, 13 Great Hampton Street, has prosecuted a man who has worked for him, and who stole from him four coats. The man had been seventeen times previously before the Court, and had only just been released from prison at the time of the robbery. He pleaded guilty, and was sent to prison for three months, with hard labour.

THE ALCHEMICAL LABORATORY.—We are informed that the plan of exhibiting the alchemist at work at the forthcoming exhibition has been somewhat modified, the first idea of a play having been found impracticable on account of the noise of the machinery in the hall. Messrs. Southall Brothers & Barclay, after consultation with others, have decided to have the alchemists represented by two chemists in character, who will carry on experiments in ancient costume, and will be assisted by a boy at the mortar, who will occasionally blow the bellows at the forge, &c.

BURY.

FATAL RESULT OF CHEMICAL STUDY.—A son of Mr. Smethurst, butcher, Bury, who attends a private school, has been receiving instruction in chemistry. He took home a quantity of sulphuric acid in a bottle, which was left upon a window-sill within reach of a young sister, Mary, a child a year and eight months old. The child got hold of the bottle, drank a portion of the contents, and died on Saturday from the effects of the poison.

CARDIGAN.

BATHING FATALITY.—A chemist's assistant named John Morris was drowned while bathing at the seaside village of Aberforth, near Cardigan, on the 10th inst. The evidence at the inquest showed great want of courage and presence of mind on the part of the deceased's companions, as well as others, who were near enough to render help to the drowning man.

EXETER.

MR. WM. HARE has been appointed Dispenser to the City workhouse.

MR. FOURAKER has obtained the contract for drugs and surgery bottles, and Mr. Burton that for surgical instruments, &c., for the new City Lunatic Asylum, at "Digby's," near Exeter.

HARROGATE.

STORAGE OF THE SULPHUR WATERS.—The work in connection with the construction of the new mineral-water reservoirs at Harrogate for the corporation is being rapidly proceeded with. There are to be twelve tanks or chambers for receiving and storing the sulphur water; each tank will be 20 feet square and about 13 feet deep, and capable of holding 80 tons of water. When completed and filled with water, the corporation will be able to administer double the quantity of baths that they administer at the present time at the Victoria Baths. The conservation of the waste sulphur water flowing during the winter season had long been a vexed question with the late Board of Commissioners as well as the corporation, and now that a solution of the problem has been arrived at, the scheme cannot but tend to be of great advantage to the town.

LEEDS.

LEAD POISONING: ACTION AGAINST EMPLOYER.—At the Nisi Prius Court, before Baron Huddleston, on August 12

an action was brought by Joseph Ogden, a police sergeant, living in York Road, on behalf of his daughter, Marian Ogden, a girl seventeen years of age, to recover damages for loss of sight and other injuries sustained in consequence of the alleged negligence of the defendant, Mr. James Holroyd, who carries on business under the style of Wilcox & Co., at the Burmanots Pottery Works, where the girl Ogden was formerly employed. The damages were laid at 1,500*l.* The case was one of exceptional interest, and lasted for four days, many important witnesses having been called. The plaintiff had entered defendant's employment when she was thirteen. About the end of 1883 a new glaze was introduced for majolica painting. This contained, amongst other ingredients, a large percentage of carbonate of lead. Plaintiff was one of those who were engaged in using this glaze, and on her behalf it was alleged that the defendant had not taken proper precautions for protecting the girl from the pernicious effects of lead, and in consequence thereof she had suffered from severe illness, and was now totally blind. A medical man visited the works once a week. The plaintiff was called and stated that she was never made aware of the dangerous nature of the occupation, though a notice was put up last year to the effect that the employés were not to wear woollen clothing, that they were to keep themselves clean, and were not to eat during working hours. A doctor visited the works weekly. During the latter half of last year the plaintiff was very ill. Her sight began to fail, and in December last she became hopelessly and incurably blind. Several girls formerly employed at the defendant's works were called, and stated that they had suffered in various ways from the effects of poisoning. One young woman stated that she became totally blind in May 1885, but had since partially recovered the sight of one eye. The witnesses stated that they had never been warned of the dangerous nature of the glaze. During the examination of one of the witnesses, a question arose as to the particulars in the plaintiff's statement of claim, and the absence of an allegation of duty on the part of the defendant to warn his workpeople as to the nature of the work. His Lordship remarked that this raised a very much wider and more important question than was involved in the condition of this unfortunate girl. It was a matter having the most serious consequences upon the trade and manufactures of the country, involving the question of whether people engaged in trade were, or were not, bound to enter into explanations to those employed by them as to the ingredients used in their business, and the character of those ingredients; or whether it was the duty of the person employed to ascertain these things before entering the employment. So far as he knew, there was no authority on the point, and the issues raised by this case were of the most vital kind to manufacturers.

Mr. Fairley, borough analyst of Leeds, stated that he had found 18.8 per cent. of lead in the glaze.

Mr. Hewetson, M.R.C.S., hon. ophthalmic surgeon to the Leeds Infirmary, Mr. A. F. Gill, hon. surgeon to the Infirmary, and Mr. Alfred George Barrs, assistant physician, stated in evidence that the girl had been treated in that infirmary for lead poisoning, from which she undoubtedly suffered.

This concluded the evidence for the plaintiff.

The defence was that, apart from the question of the obligation upon the defendant to warn those employed, every reasonable precaution to preserve the health of the workpeople had been observed, and that personally and by printed notice express warning had been given to the employés as to what was required of them.

Mr. Holroyd, the defendant, stated that when he first began majolica painting he made inquiries as to the precautions which ought to be taken for the protection of his workpeople, and as far as he could ascertain, only cleanliness was necessary on the part of the worker. He consulted Mr. Holmes, surgeon, as to what he should do, and adopted every precaution which he recommended. From 1883, Mr. Holmes visited the works every Friday, and attended the girls at their own homes if required.

Rowland Brown, a foreman in the defendant's employ, stated that he told the girls that the work was of a dangerous character, and that the danger might be avoided by them drinking acidulated water and by paying strict attention to personal cleanliness. He also explained other precautions which were adopted.

Messrs. Godfrey Wedgwood, Etruria, Staffordshire, and

Chas. Minton Sandhouse, manager for Minton's pottery works, Stoke-on-Trent, gave it as their opinion that the precautions were unusually good, and far better than those in force in their establishments.

Mr. Frederick Holmes, surgeon, Leeds, the visiting medical man, Dr. Arlidge, physician at the Stoke Infirmary, and Mr. W. D. Spanton, surgeon, Hanley, considered that the precautions taken by defendant for the safety of his employés were reasonable and proper.

Mr. J. A. Hine, one of Her Majesty's Inspectors of Factories, residing in Leeds, had frequently visited defendant's works, and had never had reason to complain of the state of the peneilling-room. He always found it in a clean and healthy condition. He never saw any dust in the atmosphere.

Two female employés then gave evidence, and while the second of them was being examined the judge arranged to have a private consultation with counsel. After half an hour's absence the judge and counsel returned. Immediately, Mr. Atkinson, counsel for the plaintiff, stated that, owing to the nature of the defence, he could not hope to be successful with his case, and in consideration of the fact that defendant was willing to take a sympathetic view of the plaintiff's position, he desired to stop proceedings. This was agreed to by defendant's counsel, and after a long speech from the bench, the jury, acting on the judge's instructions, brought in a verdict for the defendant.

LIVERPOOL.

SUDDEN DEATH.—Shortly before 10 o'clock, P.M., on August 12, an elderly woman, named Mrs. Rober, of 18 Shakesbury Terrace, Old Swan, called at the shop of Mr. Macdonald, chemist, Old Swan, and, whilst sitting on a seat making her purchases, she became ill, and within a few minutes expired. The body was conveyed home on a stretcher. Heart-disease is believed to have been the cause of death.

MAD DOG IN EDGEHILL.—The report that a mad dog was at large in this neighbourhood caused much alarm last week-end. On Sunday the animal appeared in Chatsworth Street, and bit a child named Reid on the wrist. The wound was cauterised by Mr. A. H. Blain, chemist, Upper Parliament Street, to whom the boy was at once taken. The animal disappeared, but turned up again next day to bite two more youngsters. It was handed over to the majesty of the law, but got away, and is still at large.

INCITING A DOCTOR TO A DUEL.—On August 14 Franz Hoefner, said to be a foreign artist, was charged before Mr. Mansfield, deputy stipendiary magistrate, with having unlawfully threatened to assault Dr. Burton, of the Women's Hospital, in Shaw Street, and with inciting him to fight a duel. Dr. Burton gave evidence that he was one of the honorary surgeons attached to the Women's Hospital. Prisoner's wife was admitted into the hospital in August last, and, having undergone an operation, she was discharged in September. The prisoner wrote him acknowledging the benefits she had received, and said the only happiness he ever experienced was since the operation. On August 12 witness received a letter from the prisoner, in which he said, "By your instruction, my wife told me a lie concerning her state of health after operation. That letter which I send you is just the reverse of my opinion on the subject to-day. You are condemned by the Laws of this realm to the gallows for perpetrating such hellish outrages, without even hinting to their husbands of what you are going to do to them, nor even acquaint the unfortunate woman herself of the consequences. You are a fiend which sacrifices the happiness of hundreds of people to an insane idea which can only originate from Satan himself. As you have putt cold steel in my wife and ruined her for life, you shall not be taken unaware and shot dead as you deserve, but if you have the spirits of a man you will give me satisfaction, although you deserve to be executed in that underhanded way as you kill your victims." Then followed a demand for a meeting on the next Sunday morning. Witness then placed the matter in the hands of the police, and prisoner was arrested. The prisoner, in answer to the magistrate, admitted that he wrote the letter, and that he wished to fight a duel with Dr. Burton. He was remanded for seven days, and was removed

whilst protesting that the operations were a fraud, and that Parliament, the Queen, and every man and woman should know that the patients were deluded.

THE IMLACH CASE.—This case has continued to receive much attention during the past week, and has been a topic of general conversation. In medical circles the diverse views which have already been published in the *Lancet* and other journals concerning the particular operation have given rise to a discussion which promises to be both protracted and animated. Among the general public a keen and morbid interest in the matter grows daily, and the local journals are receiving numerous letters bearing upon the subject, and are commenting freely upon it. Should a full and satisfactory explanation of the practices lately in vogue at the Shaw Street Hospital for Women not be speedily forthcoming, this institution, which has been regarded as a peculiarly useful one, and on behalf of which strenuous efforts have been made for some time past by several leading Liverpool men, is likely to be seriously affected. Already rumours of a very disquieting character are largely in circulation throughout the city.

SHEFFIELD.

"MEDICAL.—LOCUM TENENS REQUIRED. Unqualified, outdoor. Good testimonials essential.—Address, 'Medicus,' 48, Telegraph Office."

This advertisement has given rise to a correspondence in one of our local papers. It was led off by a schoolmaster who is scandalised at the idea of an unqualified medical "locum tenens." He doubts the veracity of the advertisement, and considers that if it is possibly true, it constitutes a very grave scandal. A picture is drawn of the consequences clergymen and solicitors would incur in such a case. The ev. gentleman is so terrified that he dare not think what might happen to sick persons left in charge of an unqualified medical practitioner. "*Veritas*" considers it incomprehensible in our boasted civilisation for such things to exist, and says Sheffield holds a very unenviable position in the matter of these men with boundless assumption and qualifications *al.* "Qualified" says quackery is more rampant here than elsewhere, and blames the authorities for not carrying out the provisions of existing Medical Acts. He looks for improvement in the Medical Act which comes in force next June, and will prevent unqualified men from managing branch practices. A register of qualified men to be kept in public places is also suggested.

TROOP-SERGEANT MAJOR JOHN SHIRWELL HOLMES, of the 7th Hussars, who committed suicide in Hounslow barracks last Thursday by shooting himself with his carbine on account of the alleged tyranny of his superior officer, is brother to Mr. Geo. Holmes, retired chemist, of this town. The unfortunate gentleman himself at one time intended following the fourth estate of medicine as a profession, and was apprenticed with Mr. J. Turner, South Street, but left the peaceful walks of pharmacy for the more romantic one of gunpowder and glory. He served in the Soudan campaign, and in Ireland during the last riots.

THE condition of trade in this town is forcibly illustrated by the statement of a commercial gentleman that on his last journey he received 49 per cent. only of the accounts he held for collection. Another one states that during his quarter of a century's visits to this town he never booked fewer orders.

A FEW days ago 160*l.* was obtained for stock and fixtures which during the last few years have been variously offered at prices ranging from 1,500*l.* down to 300*l.* This is depreciation with a vengeance. The fittings are Treble's make, and are said to have cost over 700*l.* during the last decade. The corner which they have adorned will cease to trouble rival pharmacists, for the place is closed, and the effects have been removed to Newark to decorate the premises of a pharmacist who is flourishing to such an extent as to demand a refit of his pharmacy.

The closing of this shop makes another blade of grass which has succumbed to the process of natural extinction of qualified pharmacists, and is no doubt a triumph for the sham chemists and druggists and cutting stores, of which three or four are to be found within a hundred yards distance of this site. Within a radius of a quarter of a mile of this

central position of fierce competition, near upon half a score of pharmaceutical parasites are to be found (including some rejected minors), whose combined receipts probably exceed in one week what was taken in two years at the business which has been overtaken with such regrettable adversity.

ST. HELENS.

THE EMPLOYERS' LIABILITY ACT.—At the St. Helens County Court on the 11th inst. Patrick Lawlor, a labourer, sued Messrs. A. G. Kurtz & Co., chemical manufacturers, for compensation. On February 3 last the plaintiff was engaged tarring the roof of a building at the works, when one of the rungs of the ladder upon which he was standing broke, and he was thrown violently to the ground. He was incapacitated from following his employment for some weeks. Judgment was taken by consent for 21*l.*

IS PEPPER A FOOD?—At the St. Helens Police Court, on Friday last, a grocer was charged under the Food and Drugs Act with selling pepper not of the nature and substance demanded. The county analyst's certificate showed that the material contained 12 per cent. of foreign vegetable matter, consisting chiefly of ground rice. Mr. Thomas, for the defence, said his client purchased it as pure pepper from a wholesale firm in Liverpool, who, in a letter since received, admitted that they sold it as such. Besides, he submitted that pepper was not food. A nominal fine of 5*s.* and costs (19*s. 6d.*) was imposed.

SCOTLAND.

CRIEFF.

CHEMICAL WORKS BURNT.—A destructive fire broke out on August 12, by which the chemical works belonging to ex-Provost Veitch were destroyed. Soon after the outbreak occurred the flames spread with great rapidity, and nothing could be done to save the buildings or their contents. A large quantity of chemicals have been destroyed. The damage is estimated at 8,000*l.*, and is only partially covered by insurance. The origin of the fire is unknown.

Legal Reports.

THE DENTISTS' ACT.

LAST week at Nottingham Herr Arnemann was charged before the magistrates with unlawfully practising as a dentist, not being on the dentists' register. Messrs. Bowman & Co., Bedford Row, London, prosecuted for the British Dental Association. The defendant had on his door the words "Dentist, Berlin," but the Act prohibited the use of the word "dentist," or other words in connection with it, without registration. The defendant's Berlin diploma was not recognised. He was ordered to pay costs, and to appear for judgment when called upon.

On Wednesday, before the Stratford magistrates, August Friederik, practising at 5 East Avenue, Oxford Road, Walthamstow, was summoned upon a similar charge, he having used the letters D.D.S. (Doctor of Dental Surgery), implying that he was registered under the said Act, or that he was a person specially qualified to practice dentistry. Mr. Crawley-Boevey prosecuted for the British Dental Association; Mr. Sharman appeared for the defence. It was stated that the defendant had in front of his premises a brass plate, on which was written "Dr. A. Friederik, D.D.S., U.S., America," and also a case of artificial teeth. The letters D.D.S. were given by the University of Michigan. The defendant had also used a card, on which he had printed "Doctor of Dental Surgery." Mr. Sharman, for the defence, said that the prosecution was the outcome of a quarrel between rival dental practitioners. The defendant was a fully qualified man and the holder of a diploma in dental surgery, but was practising without being registered, and as the prosecution only had the desire to vindicate the law, he (Mr. Sharman) would ask the Bench to order the defendant to pay the costs of the proceedings, and bind him over to come up for judgment when called on. The Bench said the case had very properly been brought before them, and they should impose a fine of 20*s.* and the costs.

THE MAJOR EXAMINATION.

TWO correspondents who have just been added to the diminishing roll of pharmaceutical chemists send us accounts of their experience in Bloomsbury Square. Judging from the nature of the examination which they have undergone it is surprising that so few aspire to the title. There is no reason why a young man of average intelligence should not, with six months' honest work, after passing the Minor examination, be able to undergo successfully the higher ordeal, and possibly the details which follow will encourage some to face the task.

I.

Having passed the Minor examination in July, and believing that a well-prepared Minor student is very nearly ready for the Major, I attempted that examination in October last.

The practical examination was from ten till four, this being the work set :—

(1) Analyse two simple powders. (2) Determine gravimetrically the amount of silver present in a sample of nitrate of silver, and test for impurities. (3) Ascertain the active ingredient in the ointment. (4) Determine volumetrically the amount of iodine in the solution given—deci-normal solution of sodiumthiosulphate being supplied. (5) Give "characters and tests" for a powder.

(1) One was nitrate of barium, the other an insoluble substance which I did not finish; (3) boracic acid ointment; (5) was, I believe, oleate of zinc. Dr. Thresh said he did not mind about our finding out what it was, but wanted us to report upon its behaviour towards solvents and reagents.

I think a gravimetric determination is unfair, as the "Regulations" only mention volumetric work. Luckily for me, it did not matter, because I had gone through gravimetric analysis.

A few words about the laboratory. Having been used to the unusually good one of the Nottingham University College, I was rather disgusted with the Bloomsbury Square institution; it is not convenient, and apparatus is deficient; the balances are not very correct, the weights often in a state of chaos; riders unknown; volumetric apparatus without stoppers, or more or less broken; no foot blow-pipe, and only one sink. I hope when the Society extends its premises a good modern laboratory will be provided for examination purposes.

The next morning, after another half-hour's delay, I was examined in chemistry and physics; among other things was asked the preparation of potassium bichromate and its reaction with alcohol, with an equation; aldehyde, preparation and products of oxidation; preparation of formic and malic acids, also of methyl ether; action of sulphuric acid on phenol, the use of the product, and its behaviour towards barium chloride; the action of sulphuric acid on glycerine, and to what class of bodies did it belong; preparation of cocaine; goa powder, criticism of the Pharmacopœia description; sulphate of copper, estimation of the copper, sulphuric acid, and water. In physics asked to explain the reflection of light from a concave spherical mirror, the refraction and reflection of light by glass, and at what angle would polarization take place, and how to obtain a current of electricity for the decomposition of water.

Botany.—I was asked the natural orders of several common plants. I had a little difficulty with one plant; it had crenocarps, so I consigned it to the *Umbelliferae*, but was asked if I had ever seen a plant in that order with coriaceous leaves and a branched umbellate inflorescence, as it had. I replied "No," but looked at my fruits and stuck to my natural order, when the examiner told me I was right, but it was a foreign plant. He also asked me characteristics of the *Malvaceæ*, about the cuticle and epidermis of leaves, and the N.O. and nature of the fruit of *Dorstenia*.

Materia Medica.—A number of specimens were shown to me, the natural order, habitat, and composition of some of them asked. I recognised nearly all of them, but called *Aconitum ferox* jalap. My examiner asked the formula of atropine, and concluded by showing me the curiosity box containing a number of barks (cinchona and others), telling me to pick out those I knew, but I was not very sure of some of them.

I went away thinking I had passed, but the examiners decreed to the contrary. I do not think I did any better in July than in October, so perhaps attempting the Major at

the minimum time after passing the Minor may have had something to do with my failure.

Again I essayed to try my luck in July, when the questions were as follows:—

Practical Chemistry.—(1) Find out the composition of two simple substances. (2) A B.P. substance sent out by a wholesale house—ascertain what it is, and test for impurities. (3) A powder found on most dispensing counters for readily making a B.P. preparation—identify. (4) Given pure iodine; make a volumetric solution, and determine the number of grammes of sodiumthiosulphate crystals in 100cc. of a dilute solution.

Results.—(1) Sodium thiosulphate and powdered boracic acid. (2) Was sent out (as he afterwards told us) as calamine, but consisted of oxide of zinc with at least half its weight of barium sulphate; some other impurities were present. (3) Powders for Plummer's pill. We found it difficult, so Dr. Thresh told us it was for a pill mass. (4) Two of us found 0·98 per cent., another 1·02 per cent., so I think it was 1 per cent.; the other three had a 2 per cent. solution. I asked for watch-glasses and clamp to weigh the iodine, but such a thing being unknown there, I had to use a weighing-bottle, which was less convenient.

Second Day.—*Theoretical Chemistry* (11.5 to 11.50).—I had questions on the following:—

Urea—formula, how obtained from ammonium cyanate. Details of estimation of carbon and hydrogen in it, and the use of the copper coil. Could the nitrogen be determined at the same time? Means of removing the air by sodium bicarbonate or the Sprengel pump. Then a few general questions on the products of the distillation of coal, and what were the chief illuminating constituents of coal gas. My examiner said he believed benzene was an important one, though it was not stated in text-books, and asked if I knew any domestic application of hydrocarbons for lighting purposes. I suggested the naphthalene in the albo-carbon burners, but he meant "air gas." Ethylene—how prepared, and what precautions must be taken to prevent ether being formed. How would its vapour-density be determined? What weight of ethylene would the flask contain if it held one gramme of hydrogen? What purely artificial products are obtained from it? (*Glycols*). Aniline—formula, use, ordinary and original methods of preparation. Nitro-benzene—preparation and properties. Could it be used in cookery? Why not? (One candidate had told him it might be used.) Alizarin—what was it obtained from, and what had been the effect of its manufacture on the madder cultivation? I was asked how it was made, and the examiner suddenly changed his mind and said I need not answer, as he was not quite sure that he could follow me into details. (I agreed with him that it was rather awkward to remember.) Had I ever dispensed trimethylamine, and what was its relation to propylamine? How to distinguish them? I said by oxidation or physical properties; but he said ethyl iodide, and wanted to know its action on each and formula. He then took me to the table and showed me an electroscope, and asked what would be the action on it of an excited ebonite ruler. What was the use of a Leyden jar with separable coats? The induction coil, its construction and use, and upon what general principle did it and the multiplying galvanometer depend? I replied, "Upon the manifestation of electricity at right-angles to the plane of magnetism." Daniell's battery—how to charge it, and the use of the sulphate of copper; also Grove's battery. The dispersion of light by a glass prism, with sketch. The examination concluded with questions on absorption spectra and Traunhofer's lines.

Botany.—Mr. Corder, 12 to 12.20. Several plants were shown and the natural orders asked. Among them were barley, oats, canary grass, agrimony (sub-order), the leaves and fruit of a tree (which I did not know). Was asked the characteristics of the N.O. *Scrophulariaceæ*, and two important differences from *Labiatae*; the nature of the inflorescence of acorns. Shown the fruit of, I think, bladder senna; I did not know what to call it, so he gave me a Laburnum legume to compare with it. Another fruit I described was apocarpous, but he said "anthoearpous" was the correct term. I finished this subject by describing roughly a seaweed, distinguishing it from a fungus by it not having a stem; stated also the differences between edible and poisonous mushrooms.

Materia Medica.—Mr. Benger, 12.25 to 12.55. I had to recognise the following drugs, and was questioned much on

the same lines as before:—*Rhus venosa Purshianus*, elemi, senega, benzoin, three kinds (one was part of the 200 years old cargo from the Cape—was asked if it was a good sample), columba; black and pale catechu, and kino (in one drawer), coca, conium, hyoscyamus, rhubarb (three kinds), gamboge, hard soap (how did it differ from soft soap?), guaiacum resin, guarana, cinnamon, spigelia, jalap, Japanese aconite, cassia pods, belladonna root, scammonium, hemidesmus, senna (East Indian and Tinnivelly), podophyllum, acaciagum, Senegal gum, tragacanth, cubeb, *Daphnidiun cubeba* (I said it was the new cubeb adulterant, not being sure of the name), and milk sugar, from which we wandered on to milk, rennet, the digestive powers of pepsine, pancreatic juice, until I said I had not done much physiology, to which he answered it was medicine, not physiology, and changed the subject to the Pharmacopœia processes for the estimation of opium, bark, and citrate of iron and quinine. I was then told that might go, and did so, feeling very uncertain as to the result, as I did not think I had done better than in October. However, next morning showed that the examiners were satisfied, and I was a Major man. For the encouragement of others I may say that I passed both examinations without studying in London, my knowledge of chemistry and botany having been acquired after business hours at the Nottingham University College, and my *materia medica* chiefly from the local Chemists' Association.

NEMO.

II.

Two months after passing the Minor I joined one of the pharmaceutical colleges in London, and studied there for four months and a half. I then paid the fee of 5*l.* 5*s.*—rather too large a fee for the advantages at present offered—and received a notice five days beforehand to present myself on July 9 and 11, at 9.30 and 10.30 respectively.

On the first day I was examined by Dr. Thresh in practical chemistry for the space of six hours. The work given was as follows:—

1st. A clear solution, which turned out to be a weak solution of cane sugar.

2nd. A powder consisting of two salts—sulphate of iron and tartar emetic.

3rd. To make some standard solution of bichromate of potash, and estimate with it the percentage of ferrous iron in a sample of ferrous phosphate.

4th. To take the specific gravity of a clear liquid. Found it to be 1.003, therefore distilled water.

Lunch was provided for us at 1 o'clock, and fifteen minutes allowed. The examiner was present all the time.

On the second day I was first examined for a little more than half an hour in botany—a very good practical examination. Asked the natural orders of most of the plants on the table, including leaves and flowers from six or eight British trees; to describe the peculiarities of the reproductive organs of the fig; to give a diagnosis of several plants on the table, and then several theoretical questions, including the "fertilisation of cryptogams," and how to distinguish plants of the natural order *Atrypaceæ* from those belonging to *Solanaceæ*, &c. I then went on to theoretical chemistry and physics, and had about the same time with this examiner as with the preceding. I was first asked the why and wherefore of the statements in my practical work, and then how could I estimate ferric iron. After one or two other questions in chemistry, I had to work out a problem to find the specific heat of iron, and another to ascertain the mean temperature of a mixture of two liquids with different specific heats. I was then questioned on the theories and varieties of heat, and at some length on lenses and prisms, and asked a few questions in magnetism. Went on at once to the last subject, *materia medica*, at which I had another half-hour. The examination was a very practical one, consisting of recognition of the barks, aloes, &c.; was questioned minutely on the assay of bark, and asked several other alkaloidal processes and the composition of most of the volatile oils in the P. This concluded my Major examination.

The examination is a much more interesting one to read than the Minor, and it is surprising that more students do not enter for it. I may mention that the books from which I read up were:—Fownes's "Inorganic Chemistry," Oscoe's "Organic," Ganot's "Popular Natural Philosophy," Entley's "Botany," and Attfield's "Chemistry" for the practical work.

MAJOR.

ESSENTIAL OILS: THEIR SPECIFIC, REFRACTIVE, AND DISPERSIVE POWER.

AT a recent meeting of the Chemical Society Dr. J. H. Gladstone submitted a third paper on this subject.

Since the appearance of the author's former papers on essential oils in 1863 and 1872, many investigations have been published; but important divergences of opinion still exist among chemists as to the rational constitution of these compounds. He now brings forward arguments founded on the phenomena of refraction and dispersion, and employs the refraction equivalent for the solar line A, as compared with that calculated from the known values of carbon and hydrogen and the known increase on account of the double linking of carbon-atoms. He also introduces a new conception, that of dispersion equivalents; which is the difference between the refraction equivalents for the lines A and H. The dispersion equivalent of carbon may be taken at 0.25, and that of hydrogen at 0.045, as a first approximation, while in the case of benzenoid compounds the addition to be made to the dispersion equivalent on account of each double linking of carbon-atoms is fully 0.8.

The $C_{10}H_{16}$ hydrocarbons are mainly considered. These are divisible on account of their physical and chemical properties into two large groups, the terpenes and the citrenes. There are also the solid camphenes and the cedrenes or $C_{10}H_{21}$ hydrocarbons. The optical properties of the terpenes are in close accordance with what may be expected from a compound in which one pair of carbon-atoms is double-linked: those of the citrenes indicate two pairs; while camphene has a slightly lower specific refraction and dispersion, however, than a terpene. The cedrenes appear to be strictly polymeric with the terpenes from an optical point of view.

The optical properties of caoutchene were also examined. Its principal constituent resembles the citrenes; so also does the liquid hydrocarbon, $C_{10}H_{16}$, that is produced by its dry distillation. Isoprene, C_5H_8 , also, must have two pairs of its carbon-atoms double-linked, a result which agrees with Tilden's conclusions from its chemical properties.

	Refraction equivalent		Dispersion equivalent	
	Observed	Calculated	Observed	Calculated
Terpenes, natural	73.0	73.0	4.0	4.02
" artificial	72.9	73.0	3.9	4.02
Camphene	71.9	73.0	3.7	4.02
Cedrenes..	109.8	103.5	6.1	6.03
Citrenes, natural	75.0	75.2	4.5	4.82
" artificial	75.1	75.2	4.6	4.82
Caoutchene..	75.3	75.2	5.0	4.82
Isoprene..	40.3	39.8	3.2	3.21

Armstrong's cymhydrene, $C_{10}H_{20}$, Atkinson's menthene, $C_{10}H_{18}$, citrene, $C_{10}H_{16}$, and cymene, $C_{10}H_{14}$, form a series; the first being a saturated compound, and the others having respectively one, two, and three pairs of carbon-atoms double-linked.

In the course of discussion Professor Tilden suggested that the cedrenes, generally regarded as $C_{15}H_{24}$ hydrocarbons, were in reality homologues of the terpenes $C_{12}H_{26}$.

Dr. ARMSTRONG thought that while Dr. Gladstone's observations agreed with the chemical evidence in assigning the terpenes to a position intermediate between the camphenes and citrenes, the chemical evidence did not harmonise with the assumption that the terpenes contained only a single pair of "double-linked" carbon-atoms; in this respect the terpenes and citrenes must be classed together. In point of fact the $C_{10}H_{16}$ hydrocarbons manifest peculiarities which at present do not admit of satisfactory representation by a symbolic expression.

INLAND MONEY ORDERS.—The *Civilian* states that it is intended to reduce the rates of commission on inland money orders. When the new scale comes into operation the charge for sending 10*l.* will be 6*d.* instead of 1*s.* as at present.

THE DRUG SALES.

THE New Corn Exchange in Mark Lane is a rather dull and ponderous looking edifice at the south-eastern side of that famous thoroughfare. As its name indicates, it is the headquarters of the corn and seed merchants, who meet in the large hall. Part of the building is let for merchants' offices, and there is also a restaurant, which appears to enjoy considerable favour with the *habitues* of the Lane.

In a room on the second floor of this building the fortnightly public sales of drugs have been held ever since, some twenty-five years ago, Garraway's Coffee House fell a victim to the spirit of modernisation, and thither every alternate Thursday morning drug merchants and brokers wend their way, catalogues in hand, to take note of the position of the market and to compete for those goods which have commended themselves to their judgment when, the day before the auctions, they made their usual round of the brokers' show-rooms and the drug warehouses.

The spacious, but somewhat grimy and dusty, room is of an oblong shape, and affords seats for about 100 persons. Upon entering by the principal entrance the visitor finds himself opposite the presiding broker's rostrum, or pulpit, which is reached by a gangway. On either side of the rostrum are three rows of tables and seats, four deep, each table affording room for three persons, and seats are also placed against the walls of the room. Although theoretically each comer is free to take whatever vacant place he finds, yet usage has assigned almost every seat in the room to particular occupants, who would strongly resent any interference with their vested rights, and thus, as a matter of fact, the casual looker-in has to content himself with one of the few unoccupied back seats, or with a standing place in the gangway leading to the rostrum.

On these back seats and round the pillars at the corners of the room congregate also a few representatives of the camp followers of the trade, the flotsam and jetsam of Mincing Lane, who are always on the look-out for odd lots which may be bought for a mere song, and from which they contrive to turn an honest penny by sorting, picking, and general doctoring up.

The attention of these buyers usually remains dormant until a parcel of inferior vanilla beans, a bag of damaged senna leaves, or an odd 5 or 6 lb. box of cardamom husks, or what not, is reached, and such parcels they fiercely contend for.

The drug brokers mostly occupy places in the immediate neighbourhood of the rostrum, while their market clerks hover round the room in quest of business, or may be seen in mysterious consultation with would-be buyers. For it should be noted that in most instances the bidding is done through the brokers, the real buyer thus remaining unknown except to those behind the scenes. The export trade—a description particularly denoting those firms, nearly all German, in whose hands lies the Continental business—club together on the seats to the left of the presiding broker, while the home traders, who are also largely interested in Colonial and American business, are scattered over the room.

Half-past ten is the official hour for the commencement of the sales, but when that time arrives the room is still in the exclusive custody of the attendant commissionaire, who may be seen leisurely arranging the seats and dusting the tables.

Slowly the leading actors now file into the room, until at about ten minutes to eleven a sharp ring of the bell announces the opening of the proceedings, and soon all present appear to be profoundly interested in the different "lots" offered for sale, which follow in rapid succession. The catalogues, of which there are usually from twelve to twenty to be gone through, vary considerably in length. Some do not comprise more than twenty-five lots, while others exceed 500. Messrs. Lewis & Peat's list is generally the most extensive, then follow those of Hale & Son, Dalton & Young, and Brookes & Green. A "lot" usually consists of a specified number of packages of a certain article. Thus, a lot of ambergris, cardamoms, ipecacuanha, kamala, musk, Peruvian balsam, Tonquin beans, vanilla beans, or gums and resins of superior quality, as a rule means one package; beeswax, especially the finer sorts, gamboge, gum benjamin of the more ordinary grades, and rhubarb are generally sold per two packages;

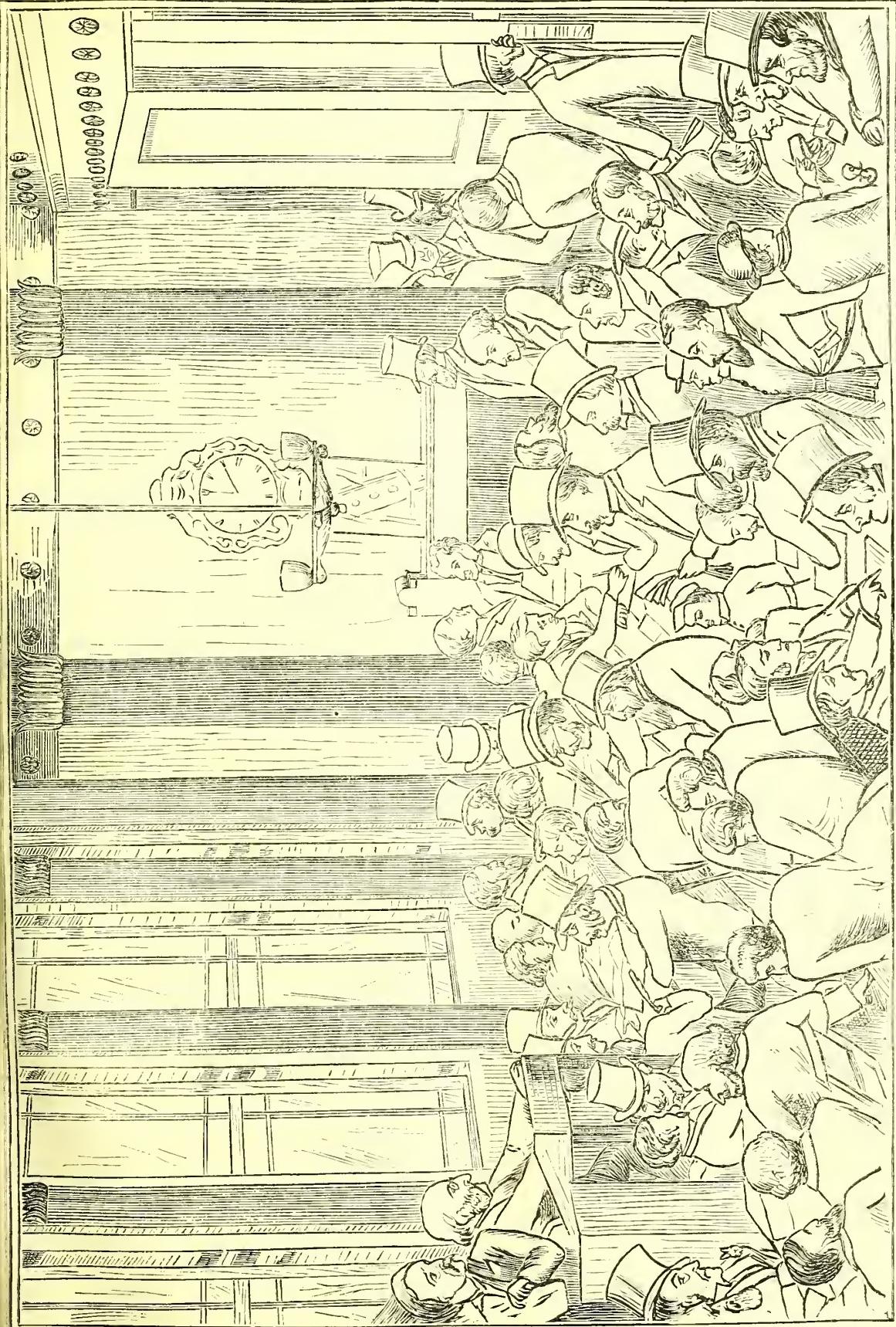
aloes in boxes or cases, col-liver oil, cassia and citronell oils, colocynth, many varieties of acacia gum, gum clemi, jalap, the more common descriptions of myrrh, and sarsaparilla, per five packages; castor oil, by ten or twenty cases; aloes in gourds, liquorice root, West Indian tamarinds and Turkey galls, per ten packages; coccus indicus, colombo root, and some other articles, per twenty bags or cases. Some drugs are sold in more or less irregular lots.

The sales are made on the public sale conditions of the London Produce Brokers' Association, which, in some instances, are printed on the catalogues. The goods are sold according to a sample which has been placed on view the day before in the brokers' show-room or at the warehouse, but parcels damaged by sea-water or otherwise are generally so specified.

Sometimes, but seldom, goods put up for sale have not been previously on show. In that case objection as to quality must be made within a week from the day of sale; and any dispute, if one should arise, is referred to the arbitration of two parties, one selected by each side. These referees pronounce a decision, or, if they cannot agree, call in a third to do so, the fee being a guinea for each person. The goods bought in sale are to be taken and paid for at official weights marked in the warrants by the dock, wharf, or warehouse company, with customary allowances of discount, tare, draft, and tret. The former in most instances is $2\frac{1}{2}$ per cent. Tare is the allowance made for the weight of the case, bag, cask, or any other covering in which the goods are packed. On drugs the *actual tare*—that is to say, the weight of each separate package, as ascertained by the dock or warehouse authorities—is generally allowed; but in some instances the tare is estimated by picking out at random a few packages from a lot, taring these, and allowing their average tare on the entire number. Draft is a deduction allowed from the gross weight of the goods, and is divided into two headings, viz., *East India Draft*, for most goods generally imported from India, China, Japan, &c.; and *West India Draft*, on produce from America, Africa, and Continental Europe. East India draft is calculated at 1 lb. on every package exceeding 28 lbs. gross weight, if the tare of that package does not exceed 28 lbs., and at 2 lbs. if that tare is exceeded. West India tare is allowed on packages exceeding 56 lbs. gross, at the rate of 1 lb. up to 1 cwt., 2 lbs. for 1 to 3 cwt., and 4 lbs. for packages over 3 cwt. gross. Tret is a deduction given for supposed damage or shrinkage, and amounts to 4 lbs. from every 104 lbs. net weight. These are the allowances: but on the other hand the buyer has to pay lot money, at the rate of 6d. per lot, and a brokerage of $\frac{1}{2}$ per cent. Of course there are numerous exceptions to the broad rules of allowances, but to specify all these would be beyond the scope of our present article. The cash principle is strictly enforced at the sales. Fourteen days' so-called prompt is allowed on drugs, the prompt-day being the date upon which the goods bought must be paid for in cash. The fourteen days' grace commences on the Saturday following the auction. As a rule a deposit is paid by the buyer immediately after the sale, and the warrants for the goods bought are then delivered to him.

The order of sales is fixed by ballot, held a few days before the auction at the office of one of the brokers, and a list of the rotation is affixed to the principal entrance of the room. The broker is generally accompanied by one of his market clerks, who takes his place at the right of his principal and attentively surveys the audience; for it is not the custom of buyers to loudly pronounce their bids, a nod, or a wink of the eye being often employed to convey an offer, and so quick are many market clerks at distinguishing these tokens that it is currently reported they often contrive, especially if a lot is well competed for, to notice several bidders in succession whom it would puzzle the skill of the most acute observer to indicate.

The broker commences his sale without any preliminaries, plunging at once *in medias res* by soliciting offers for his goods. "Now, gentlemen, how much will you give for this lot? Very fine gum, article getting very scarce"—this is the favourite exordium, and "Gentlemen, we thank you; Messrs. So-and-so follow," is the stereotyped peroration. The bantering observations between auctioneer and audience popularly supposed to be a feature of every public auction are generally absent from the drug sales, which proceed throughout in dull decorum, an occasional pun on the name



A PEEP AT THE DRUG SALES.

of a drug, or an exhortation to a small buyer not to let this chance go by to secure a certain lot of exceptional badness, only serving to render more conspicuous the usual absence of an Attic-salt flavouring in the words falling from the occupant of the rostrum. Smart disputes, however, frequently occur among the buyers as to the precedence of a bid, which are decided by show of hands if both claimants to a lot insist.

Anyone, of course, has a right to attend the public sales, but few outsiders do so, and if they drop in occasionally they generally prefer to make their purchases through the medium of a broker, and so efface their identity.

Thus the auctions strongly partake of the character of a family party, and this seems to be the ideal condition of things among the *habitues*. It might be supposed that the brokers, as representatives of the importers, whose main object it must be to obtain the highest possible price for their wares, would be anxious to secure every publicity for their sales, and would welcome any effort tending to increase the number of attendants. But the contrary appears to be the case. "You leave us alone," said a representative drug broker to us lately; "we know the people that come to the sales, and we don't want any more to come." One trouble they all, druggists and brokers, have in common; this is the reports of their proceedings which appear in THE CHEMIST AND DRUGGIST. There has been some very tall talk about these, and more than one important personage has announced his determination to "put it down," the "it" referring to our market reports, which, however, with or without the countenance of some who "seem to be pillars," are very likely to continue their career.

Goods remaining unsold—and alas! in these days of slack trade and low prices the lots under that heading form a great majority—are bought in: that is to say, the broker is supposed to repurchase them for his principal, in doing which he generally names a fancy price; some brokers enjoy a particular reputation for the extravagant value they place upon their goods in this manner. Such goods make their appearance at successive sales or are sold privately. Sometimes the owners, as a last resource, put them up "without reserve," and allow them to be sold for whatever they will fetch. These sales without reserve are often puzzling in the extreme to the outsider, and we have heard reports—no doubt ill founded—that on some occasions a friendly spirit, prompted by pity at the wretched state of a certain article, has materially assisted to bring about an apparent, but temporary, improvement in the market, by buying a parcel of goods "without reserve" at actually a much higher price than the current market value of the wares.

Our artist has sketched the aspect of the room while the sales are in full progress, and some of the *dramatis personae* may be recognised by anyone familiar with the London drug trade. It may occur to some severe critics to denounce our picture because the presiding broker is being assisted on this occasion by the market clerk of a rival house; but it should not be rashly assumed from this circumstance that the millennium has actually arrived, and that the lion is lying down with the lamb. The explanation is simply that the particular sales indicated moved along more quickly than our camera could work.

There has been some talk lately that the public sales should be transferred to another room, but until now no definite steps have been taken in this direction, although it is rumoured that a room in an adjoining street was thought of, and would have been engaged but for the fact that it would necessitate the ascent of another flight of stairs—a proceeding to which in many quarters there is an insurmountable dislike.

Trade Notes.

HAMILTON & CO., manufacturers of carbolic preparations, recently removed to 118 High Street, Wandsworth, S.W.

MESSRS. A. HUTCHINSON & CO., manufacturers of india-rubber goods, have removed from Great Winchester Street to larger premises at 70 Basinghall Street, where they show an assortment of their manufactures.

LANOLINE.—We understand from Messrs. Burroughs, Wellcome & Co. that they will only manufacture preparations of lanoline, such as medicated ointments, soap, and the like. Messrs. Benno Jaffe & Darmstaedter will continue to manufacture the lanoline itself, for which they have special facilities.

THE LONDON LAMP COMPANY, of London Docks, E., send us a copy of their new illustrated catalogue, which is well got up, and contains a large variety of plain and ornamental lamps for the home trade and for export. Most of the lamps are provided with the patent safety "London" burner, but burners of any other description may be fitted to them.

WE have received from Messrs. C. J. Hewlett & Son a sample of pure terebene prepared by them, and find, on examination, that it possesses the recognised physical characteristics of the drug, and that it is free from oxidation products. The preparation is one which may be used with confidence.

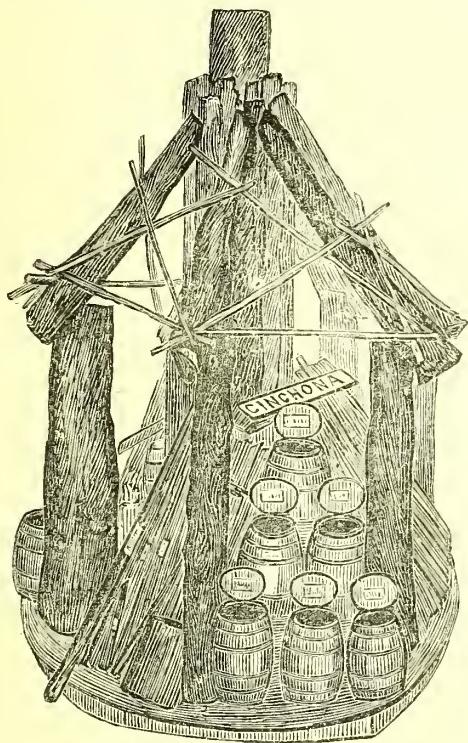
THE directors of Brunner, Mond & Co. (Limited), in their report for the half-year ended June 30, state that the accounts show an available balance of 112,127*l.*, including 30,163*l.* brought forward. In addition to the interim dividends, they propose a distribution at the rate of 7 per cent. per annum on the preference, and at the rate of 20 per cent. per annum on the ordinary capital. The sum of 7,500*l.* is also to be written off the patents account, 10,000*l.* added to the reserve fund, and 33,609*l.* carried forward.

IMPROVED TIN CANISTERS.—Messrs. W. B. Williamson & Sons, Providence Works, Worcester, have recently patented some improvements in metallic boxes and cases for storing foods and other substances, which dispense with the use of tin-openers. One end of the canister is made with a contracted rim, over which a cover is soldered; instead of cutting through the metallic lid or edge, all that is necessary, owing to the peculiar rim, is to insert a penknife between the cover and the rim and draw it round the circumference. This is done with great facility, and the cover comes off without difficulty. An outer cover fits over the inner one, so that when opened the contents of the canister may be protected from air and dust. The canisters are made for solids and liquids, and are examples of good workmanship.

MAIGNEN'S WATER-SOFTENING PROCESS.—On the 10th inst. the Society of Engineers visited the Southwark and Vauxhall Company's works at Hampton, for the purpose of inspecting the plant which has been erected for softening the feed-water of the boilers by Maignen's patent process. In this process anti-calcareous is the precipitating medium, and a specially arranged filtering apparatus is used. At the company's works at Battersea, where the process has been in operation for two years, the softening tank has on the top a water-wheel and hopper; the water as it leaves the ball-cook rises over the water-wheel and sets it in motion; this in turn gives movement to blades in the hopper, which thrust out through a regulating door the required quantity of anti-calcareous, thus making use of the incoming water to regulate the supply of anti-calcareous. It is calculated, and has been practically demonstrated, that $\frac{1}{2}$ ton of the anti-calcareous throws down $1\frac{1}{2}$ ton of precipitate, and this can be worked up so as to be again available. The company is so satisfied with the results that they have given orders for the erection of more extensive plant, capable of treating a million gallons of water per day. In building this an old sand filter will be utilised for the formation of a "Filtre Rapide" on a large scale. In the bed of the filter 200 of Maignen's patent filter-frames, covered with asbestos cloth, will be fixed perpendicularly, the filtration taking place laterally, instead of downwards, thus giving 2,800 square feet of filtering surface, in place of 120 square feet as formerly. We have already explained that the great difference between Clark's and Maignen's softening processes is that the latter removes sulphate of lime as well as carbonate. Moreover, the fact that anti-calcareous is as applicable to treating a ewerful of water for a bedroom as it is to soften the millions of gallons required for a reservoir gives that compound unusual value.

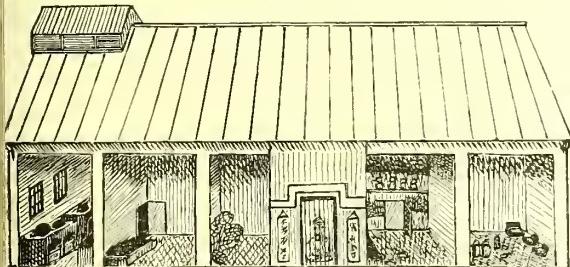
SKETCHES FROM THE COLINDERIES.

IN our first notice of the Colonial Exhibition we referred to the cinchona trophy which is exhibited in the Ceylon Court. To-day we give a sketch of this trophy. The side supports are principally *C. succirubra* and *C. officinalis* stems, and smaller stems and branches form the central pillar around



CINCHONA TROPHY.

large monocotyledenous stem: the crossed pieces are the ame. In the recesses quilled bark is shown, in pieces of xtraordinary length, and the barrels contain excellent amoles of coffee beans.



VERMILION FACTORY.

In the Hong-Kong Court the model of a vermilion factory one of the most prominent objects. It is presented to the commissioners by the Vermilion Guild of Hong-Kong, and is lanned on a scale of one-eighth of the full size. Messrs. H. cCallum and H. R. West, of the Colonial Civil Service, have constructed the model. The building is divided into ten sections, five in front and five behind, where the various operations of manufacture and packing are carried on, besides little central cage in the front, where a god of fortune sits ashriened.

In the first stage black sulphide of mercury is formed by eating 1 part of sulphur and 5 parts of mercury together shallow iron pans. This operation takes only about ten inutes. Next, to convert the black sulphide into cinnabar, is placed in shallow hemispherical-shaped thin iron pans into the top of a brick furnace. Over the black sulphide the fixed pan a conical heap of porcelain ware is loosely tilt up, and the whole is covered with another iron pan nilar in shape to the fixed one. The rim of the covering

pan is made to fit inside the rim of the fixed pan, and the joint so formed is luted with fireclay. Everything being ready the fire is lighted in the furnace and is kept briskly burning for some sixteen hours, when it is allowed to burn out. During the heating the whole of the black sulphide volatilises and condenses on the porcelain ware as cinnabar. When the pan has cooled it is uncovered, and the porcelain ware, with the attached cinnabar, is removed.

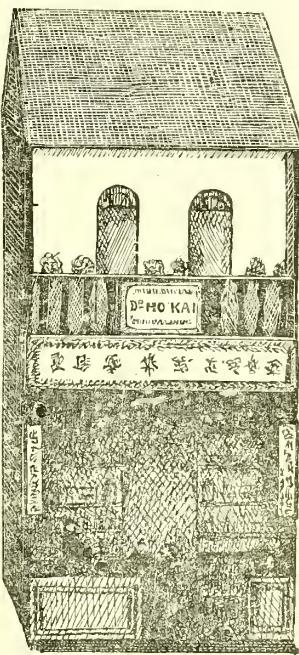
The crystalline masses are then detached from the porcelain and pounded in iron mortars to a rough powder. This rough powder is ground with water in stone mills to a fine powder, and the resulting semi-fluid mass of vermillion and water is elutriated in a solution of alum and glue. The coarser portions are separated and re-ground, while the vermillion in fine powder is dried in ovens, and is afterwards sifted and packed for sale.

Sixteen Chinese firms form the Vermilion Guild.

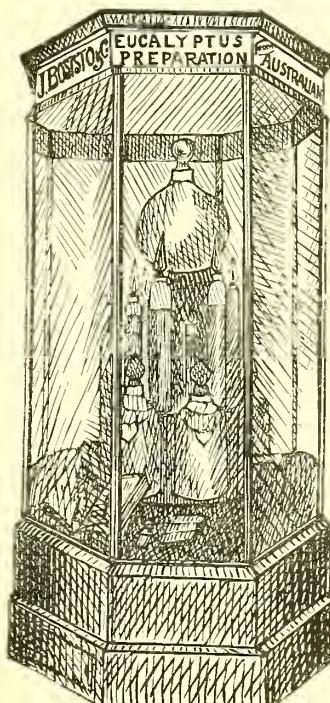
All make two qualities and charge \$80 per picul (133 lbs.) for the first, and \$75 per picul for the second, delivered in Hong-Kong.

The drawing above represents the Chinese pharmacy exhibited by Dr. Ho-Kai of Hong-Kong, which we fully described in our first report of the exhibition, published on May 8, along with a description of the curiosities of Chinese *materia medica*, also to be found in the Hong-Kong Court.

Our other sketch explains itself. It shows the principal features of the case which has been fitted up by the President of the Victorian Commission. The show-jars are devoted to



CHINESE PHARMACY.



MESSRS. BOSTOCK AND CO.'S CASE.

various eucalyptus oils, exhibited in such a way as to bring into striking contrast the different physical characters of the

oils. The open book is a copy of Muller's "Eucalyptographia." The bottom of the case contains eucalyptus kinos, xanthorrhœa resins, poppies, &c. and a frame is devoted to the prize medals which have been awarded to the firm. At the corners of the square base of the case living eucalypts are shown, but are not included in the sketch.

LIVERPOOL INTERNATIONAL EXHIBITION.

SINCE our former report, which was published when the arrangements of exhibits were yet incomplete, the course of events has proved that this exhibition is not only greatly resorted to and appreciated by the public, but that it is of considerable educational value. From the first it was clear that the hurried nature of the opening was detrimental to the immediate success of the show, and the temporary arrangements which were made only served to delay for several weeks a proper system of arrangement. Even now, however, it cannot be said that the exhibition is a well-arranged one, and it is freely admitted by Liverpudlians that they could have done much better, and [they say that they will do better should they have the hardihood to venture upon a similar enterprise again.

Though popularly designated "The Shipperies," the official title of this exhibition is sufficiently comprehensive to admit manufactured goods of all descriptions. No better example of the catholic spirit of the executive committee can be had than at one stand, where may be witnessed the manufacture of a felt hat from the raw materials, and if the spectator wait long enough he may buy the finished hat for half a crown. We have already indicated that pharmacy and its kindred branches of trade are amply represented in the exhibition, but, as in other departments, this suffers considerably in interest from the want of methodical grouping. The following exhibits are to be found in Gallery F:

Messrs. Ayrton & Saunders, Liverpool, have three cases of their manufactures. One of these has all the appearance of being a beautifully inlaid-wood cabinet, but on close inspection it is found that the designs are made with the wood stains which the firm has made a speciality. This case is devoted to crystal dyes, stains, and varnishes, and from the examples of work done with them they appear to be of excellent quality. Moreover, they are all tastefully put up for sale. A second case is devoted to boxes, of which many kinds are shown, from the humble chip to the elegant velvet-lined, perfumed box. So many kinds of boxes are here shown that it must have required considerable ingenuity to arrange them in such a way as to be effective; but the exhibitors have succeeded well, and by introducing perfumes a very pleasant effect is secured. In another case the firm exhibits a large assortment of bottles, of which the oval blue glass appears to us to be a kind which should be more used.

In a very handsome case Messrs. W. J. Bush & Co., Artillery Lane, E.C., display an excellent assortment of goods. The position of this case affords a good example of the disregard of exhibitors' interests which has been shown by the authorities. Messrs. Bush's case is an upright square one, glazed on four sides, and with brackets in each corner for pear-shaped show bottles. It is evident that the spectator should be able to inspect it from all sides: yet it has been placed against a wall, and next to a wall-paper manufacturing court. Possibly the committee may have assumed that the sense of smell and the pleasures of the eye have some associations in common. The internal arrangements of this case are excellent. From the centre rises a pyramid of three plate-glass shelves, upon which are displayed fruit essences, essential oils, and soluble essences, as well as harmless colouring substances for confectionery and aerated beverages. The fruit essences are now very largely employed in those industries, and this firm has the credit of producing a large number of peculiar flavours. These, like the essential oils, are characterised by their bright

appearance and the delicacy of their colour. Amongst the vegetable colours we noticed a very bright red dye, which is freely soluble and contains no aniline. In addition to natural essential oils there is an excellent display of the artificial oils invented by the firm, and the base of the case is taken up with granulated effervescing preparations. All liquids in the case are displayed in finished pear-shaped and globular bottles, handsomely labelled. An effective appearance is given to the exhibit by the corner brackets referred to.

Messrs. F. C. Calvert & Co., Bradford, Manchester, in a small but effective case exhibit the products of phenol, which have made for them a world-wide reputation, and have greatly helped to establish the use of carbolic acid as a disinfectant. A complete series of specimens, systematically arranged, shows the stages of manufacture from coal tar. This is surmounted by a large model of a phenol crystal. The series is one which well deserves attention from the fact that it illustrates in a telling manner the science of the industry. In addition to ordinary phenol products and by-products, the group contains excellent specimens of sulphocarbonates, borophenol, and other phenol compounds. These are substances for which the firm claims no exclusive right of manufacture; but Messrs. Calvert also exhibit their various specialities.

The manufacturers of Messrs. Gaskell, Deacon, & Co., Widnes, are not of a kind which afford opportunity for striking display, but their collection of twelve specimens of alkali products and by-products is one of the most interesting in the exhibition. They display caustic soda (three varieties), soda ash (two varieties), refined alkali (two kinds), bleaching powder, calcium chloride, crystal carbonate, and bicarbonate of soda, in large white flint bottles, which form a pyramidal tier over an immense crystal of ordinary sodium carbonate, which measures 2½ ft. high by 2 ft. broad. The speciality of this firm is undoubtedly the crystal carbonate, a form of carbonate of soda in small crystals, containing one molecule only of water of crystallisation, and containing, therefore, almost three times as much real Na_2CO_3 as the ordinary washing soda. Apart from this the small crystals offer the peculiar property of evolving heat when dissolved in water, in the same way as the caustic alkali; they are more readily dissolved than the large crystals, and obviously are conveyed by rail or sea at much less cost, because they occupy less barrel bulk and contain less water—17.5 per cent. as compared with 62.84 per cent.

No exhibit surpasses in artistic display that by the Liebig's Extract of Meat Company (Limited), 9 Fenchurch Avenue, E.C. The Company's products are shown on a colossal structure of walnut wood, surrounded by a substantial rail. The stand shows three tiers with a summit pedestal, upon which is displayed a bust of Baron von Liebig. On the two upper tiers Extractum Carnis is displayed, and on the lower one are handsome jars of by-products, such as bone-meal, guano, meat-meal, &c. In panels between the tiers are oil-paintings of scenes in the vicinity of the Company's works at Fray Bentos in South America, where there is a small colony of about 2,000 souls dependent upon the Company's welfare. In addition to extract of meat, various kinds of tinned beef are also shown on the base of the stand.

Messrs. H. Coghill & Son, 19 Hanover Street, Liverpool, have erected in the gallery a structure which resembles in outline the cinchona trophy of the Ceylon Court at South Kensington, the stems in this case being snow-white and crystalline logs of borax, which surmount a base upon which are displayed various forms of borax and boracic acid and volcanic ammonia. A sample of boracic acid which is shown is in exceptionally large fine crystals. There are several examples of peculiar crystallisation throughout the exhibition, notable amongst them being a cross and a basket of carbonate of soda, made by Messrs. A. G. Kurtz & Co., St. Helens.

Mr. C. W. Field, Wood Street, Liverpool, has a small but well-assorted exhibit of soluble essences and other substances employed in aerated water manufacture. Essence of lemon gets the place of honour in the exhibit, and it is closely surrounded by soluble flavouring and fruit essences and ethers. The case also contains specimens of capsicine and gingerine, quillaia bark, and various preparations of it—such as extract, powder, and saponin—ammonia carbonate, cream of tartar, and other chemicals.

Messrs. Levinstein, Campbell & Co., 21 Minshull Street, Manchester, show aniline and alizarine dyes, benzoin and its

derivatives, and other products of coal tar. Judging from these exhibits, and the beautiful samples of fibres dyed with the colours, this firm is quite able to compete with German manufacturers. It is a regrettable circumstance that this country, as the greatest consumer of aniline dyes, draws supplies so largely from the Continent. Yet it is unquestionable that our chemists are as favourably situated, both as regards raw material as well as scientific ability, as Continental makers. But the fact is that only a few firms in this country have seriously undertaken to supply these dyes for home consumption; and while the uses for the artificial colouring bodies have greatly extended in our textile industries, there has been no corresponding extension or increase in the number of manufacturers. What ought to have been an important home industry has become a large market for foreign labour and capital. It might be otherwise, and it is pleasing that an endeavour is being made to make it so. Another case in this section is devoted to some of the older fashioned dyes and mordants exhibited by Messrs. C. Dixon & Co., of Church, near Accrington. Their exhibit is an excellent one, and comprises fine samples of indigo and its derivatives, various dyewood extracts, Prussian blue, chrome colours, tin muriates, sulphate of magnesia, &c.

The soap trade is extensively illustrated in this gallery. The exhibit of Messrs. J. Crosfield & Sons, Bank Quay Soap Works, Warrington, is striking both in originality of design and artistic effect. In an immense glass case they have built an Eastern temple with soaps of various colours, moulded into shapes suitable to produce a striking architectural effect. At each of the four corners of the structure is a minaret, with pointed apex. The principal entrance is reached by a flight of steps made of soap beautifully marbled; within the vestibule is a large hall formed by the central portion of the structure, or kiosk. Apart from the structural beauty of this exhibit, it is an excellent example of the soap-making art. In order to have the exhibit always effectively shown, it is illuminated after dusk by special incandescent electric lamps. Adjoining this case is another, at which there is a less pretentious display of household and toilet soaps, which is under the charge of female attendants. The Greenbank Alkali Works Co. (Limited), St. Helens, make an effective display of their specialities, the feature being that the goods are shown as they are sent into the market, show samples for examination being also exhibited. In addition to household soft and hard soap, and a special hard water soap which possesses great cleansing properties, the Company manufacture alkali for the extemporaneous preparation of soaps. These enable farmers to prepare their own soaps during the sheep-washing season from cheap or waste fats, with very little trouble and without special apparatus. Messrs. Lever Bros., Warrington, the manufacturers of Sunlight Self-washer Soap, which is so extensively advertised at present, and particularly in and around the exhibition, have erected a stand in the form of a cottage of the Elizabethan period, and have clothed their smart attendants in costumes suitable to the surroundings. Here there is a good display of the "Sunlight" soap, which is specially useful for hard and sea water, as well as for laundry purposes. Within the cottage and in view of the spectator is a steam-power machine for stamping and forming the tablets. At the stand there is a copious distribution of a small 24-page pamphlet, in which the science of soap-making is interestingly treated. In this they tell us that "it was not till the sixteenth century, in the reign of bluff King Hal, that the manufacture of soap was introduced into England. In 1711 a severe blow was dealt at the industry by the imposition of a soap tax of 3d. per lb. In subsequent years, however, it was gradually reduced, and was finally abolished in 1853, when it produced, according to Mr. Gladstone, the then Chancellor of the Exchequer, no less than £1,26,000 annually, a sum which gave Britain some right to the boast of being the 'cleanest nation in the world.' And it is only since then that much advance has been made in the science of soap-making." It is not surprising, therefore, that there is so much competition in this industry, and that so great variety is shown in style and title of production. The Connah's Quay Alkali Company (Limited), Connah's Quay, Flintshire, make a special display of sea-water soap. This soap is of a cream-colour, and is delicately perfumed. The exhibit is made up of large slabs or bars forming a monumental base, upon which is a life-size model of a goat cast in sea-water soap. The display is very effective.

INDIAN PHARMACEUTICAL NEWS.

A CORRESPONDENT writing from Poona sends us some items of information:—In these times of depression for chemists at home, when many are at their wits' ends to know how to obtain the necessary money to carry on business, it should be interesting to learn that there are yet many places abroad, and especially in India, where a little perseverance and common sense will enable a man to obtain a comfortable living with ease. I would recommend India to troubled pharmacists with some capital as a field for its profitable investment. A year or two's experience as an assistant in one of the large drug firms is of course an advantage, but not an absolute necessity to anyone about to enter business. "Tact, push, and principle," plus capital, and success may be pretty well depended on. It is not difficult to select a town where there is no English competition, or where there is room for a little. Take, for example, the case of Secunderabad. Although there are in Secunderabad one brigade of cavalry and two brigades of infantry, with a corresponding number of Royal Artillery and Engineers, all officered by Englishmen, and a contingent of the Nizam's troops with English officers, yet there is no chemist in the place, and all sundries appertaining to the calling of druggist must be obtained from Madras, Bangalore, Poona, or Bombay. All medicines are at present supplied by a Government hospital, but it is not too much to say that where there is an establishment like those existing in the four places just mentioned, great numbers of the civilian population would at once patronise it with their prescriptions.

[Since writing the above I am informed that Mr. C. F. Pearson, manager of the Byculla establishment of Messrs. Treacher & Co. (Limited), is about to open a business in Secunderabad.]

It will be unfortunate for the Simla chemist if the agitation against the annual migration of the Viceroy's Government to the hills proves successful, as seems likely to be the case. One chemist would then be more than ample for the requirements of the place.

Your Ceylon correspondent gives the rates of some patent medicines sold there, which are much higher than those obtained on the mainland of India. Eno's Fruit Salt and Clarke's Blood Mixture can be obtained in Bombay for R. 1.8 per bottle; Cockle's, Holloway's, and Scott's Pills at ten annas each per box, and nearly all 1s. 1½d. articles sell for ten annas; the lessening value of the rupee is, however, slowly pushing patents up in price.

[The rupee, nominally worth 2s., is now worth actually under 1s. 6d. The anna is the sixteenth part of a rupee; consequently 1s. 1½d. articles selling for 10 annas in India must be sold, if not at a loss, at very near one. Ten annas should be 1s. 3d., but when converted into English currency, in which the goods have to be bought, would mean now little more than 10d. So R.1.8 would mean nominally 3s., but actually only a little above 2s.]

Mr. J. R. Morgan, of Messrs. Treacher & Co., has been appointed lieutenant in the Poona detachment of the Bombay Rifle Volunteers. Nearly every chemist's assistant in India is a volunteer; in fact, I am not acquainted with one who is not. Mr. B. Phillips, of Messrs. Phillips & Co. (Limited), has long been the popular captain of G Company in the same corps.

ARTIFICIAL DIAMONDS.—A correspondent of *Inventions* (Mr. J. Palmer) states that he obtains crystallised carbon in the following manner:—Carbonic acid gas is liquefied by pressure in a strong wrought-iron cylinder, which has an insulated carbon rod fixed at each side of the lower end. The end of each carbon rod projects into the vessel about an inch. A current of electricity (about E.M.F. 30 volts and 15 ampères) is then passed through the liquid gas, by means of the ends of the carbon rods, outside the cylinder, being connected to an electric battery. Electrolytic action then takes place on the liquid gas, and pure crystals of carbon are gradually deposited on the carbon points. What becomes of the liberated oxygen, the iron vessel, and the operator is not stated.

EDINBURGH INTERNATIONAL INDUSTRIAL EXHIBITION.

MISCELLANEOUS EXHIBITS.

IT is the province of the retail chemist, as the business is at present conducted, to supply to the public a great many things that are not strictly of a pharmaceutical character. Such articles may belong to several well-defined classes of goods, such as foods, drinks, perfumery, &c. These classes are well represented at the exhibition, and many of the articles shown are such as are in demand from the chemist and druggist. In the matter of foods and drinks it not unfrequently happens that a particular speciality, belonging to one or other of these classes and destined to future popularity, is first introduced through the chemist. He sells a large number of packages or bottles, as the case may be, at first and gets the nominal value, say 1s. for them. As the demand increases a grocer lays in a stock and sells at 10d.; another procures a supply and charges 9d.; a third sells his at 8d. By this time every grocer has it, and the chemist's trade in the article is gone. His only chance, therefore, is to pick up something new and have the first turn out of it. This by the way, however.

Messrs. John Mackay & Co., Canning Street, Edinburgh, show refined gelatine, or extract of calves' feet, and calves' feet jelly. The gelatine is in various forms, such as sparkling gelatine and amber gelatine; it is cut in a variety of ways, which bring it under the designations long cut, short cut, broad cut. The calves' feet jelly shown is very attractive. It is variously flavoured with noyeau, lemon, vanilla, orange, &c. Messrs. John Mackay & Co. are the only makers in Scotland who prepare calves' feet jelly from gelatine of their own manufacture.

Messrs. Fischer & Schmitt, Höchst-upon-Main, Germany, show gelatine and glue of several qualities for culinary and industrial purposes. Their refined "Star Gelatine" is a very brilliant article. Its special characteristic is that it requires no fining of any kind when used for the preparation of jelly. The leaflet descriptive of this exhibit gives a recipe for beef-tea jelly which may be worth reprinting here. The directions are:—"Take one ounce of 'Star Gelatine' and soak it for fifteen minutes in a wineglassful of cold water. Add hot beef-tea, or a teaspoonful of Liebig's Extract of Meat dissolved in hot water sufficient to make the whole one quart; stir till the gelatine is dissolved, add any seasoning desired, strain through muslin or flannel, and pour into glasses or shapes. In hot weather it should be set on ice to keep it firm."

Messrs. Gridley & Co., London, have a fine display of isinglass of every description. Examples of the different kinds that are imported from Russia, Brazil, Penang, Bombay, Hudson's Bay, West Indies, and China are here shown. Also different sorts in their manufactured state as used by brewers, and for culinary purposes. The Penang variety, we understand, is much in favour among brewers; the Russian finds most favour with cooks. The Brazilian kind is almost equal to Russian, but a jelly made from the former is not quite so firm and transparent as one made from Russian isinglass. A simple means of distinguishing Russian from Brazilian isinglass is to chew a small portion of each. The Russian variety sticks more to the teeth than the other. Icinglass is much more effective than gelatine for clarifying wines, although chemically the two may be said to be identical. In Messrs. Gridley's case the isinglass may be seen in sheets, in strips, wide and narrow, and in the very finest-cut form such as is used for invalids.

Icinglass, as is well known, is manufactured from the "sounds" of certain fish. It is by the contraction and expansion of the "sound" that these fishes raise and lower themselves in the water. In some, such as *Acipenser Huso*, *A. ruthenus*, *A. stellatus*, and a few of the *Gadus* species, the "sound" is thick and contains a large percentage of gluey matter, being, therefore, more valuable for the manufacture of isinglass. Of these fish bladders 1,500 are required for the manufacture of 100 lbs. of isinglass. The annual statement of the trade of the United Kingdom shows that the average yearly importation of isinglass during the last five years has been 6,737 cwt.

We have already referred to the Normal Company (Limited), in connection with their exhibit of fish oils. They also show

isinglass of their own manufacture and made in this country. The operations of this company are chiefly directed to the utilisation of fish refuse, which has been hitherto thrown away, or used merely as manure. Icinglass is one of the substances recovered from this waste material. Another product which deserves notice is fish glue. Hitherto, the supply of fish glue has been limited, because it was obtained only from the skins of fish: attempts to make it from the other parts of the fish having yielded an unsatisfactory article, presumably on account of the salts contained in the flesh of the fish not having been eliminated. This company claim that their process gets over this difficulty, and that now the supply need not be short of the demand. This fish glue is said to be superior to the ordinary glue of animal origin in tenacity and elasticity. It is much in favour among bookbinders. If it be borne in mind that it is supposed that fish glue was an important constituent of the famous lacquer prepared by the ancient Chinese—an industry which the inventive faculty of modern times has not succeeded in imitating—we may entertain hopes of a good future for this glue.

Albumen from fish roe is another article which the company manufacture. They offer it as a substitute for albumen obtained from eggs or blood, the two sources from which it has hitherto been procured. Albumen is of great importance in certain industrial arts, such, for example, as sugar-refining and the application of colours to cloths, and a good deal is used in photography. About 300 eggs are required to produce 2 lbs. of dry albumen. The cost of egg albumen is therefore considerable. Albumen from blood is darker in colour and consequently lower in price. The fish product can be obtained at a still lower cost, and it is said to be equally serviceable. About 300 lbs. of roe yields 50 lbs. albumen. The extract of meat prepared from whale's flesh we have previously noticed. Supplementary to what we then said, it may be added that a large blue whale of 200 tons yields approximately 5,000 lbs. of extract. For comparison it may be mentioned that at Fray Bentos, where Liebig's Extract is made, an ox yields only about 10 lbs.

Messrs. W. Wallace Auld & Co., Edinburgh, make a display of Johnston's fluid beef preparations. These preparations are pretty well known to the trade. Powdered beef extract, however, is new to us, and it has the advantage of concentration where that is a consideration.

Messrs. James & Thomas Marshall, Glasgow, make a specialty of preparations from wheat which they have been introducing to the notice of medical men pretty freely during the present year. For their semolina they claim a special degree of purity. It is light and easy of digestion, and its flavour is of a delicacy likely to commend it to convalescents. Farola is the name they give to a preparation which is described as the extract or essence of the grain. It is in a finely granular state, and very delicate in appearance. When cooked it is as delicate as arrowroot, and for this we think it might be judiciously substituted, on account of its superior nutritive value. It contains over 7 per cent. of albumenoid constituents, while arrowroot contains almost none. This is too fine a preparation ever to become popular with the "cutting traders," and might with advantage receive attention from chemists, especially as the makers are introducing it through medical men for invalids' use.

Messrs. A. & R. Scott have now been some time before the public with their oat-flour, which has been very well received. Messrs. Scott's stand at the exhibition is a favourite one, as the manufacture of their now popular Mid-Lothian Oat Cakes for tea is carried on by a considerable staff of attractive and dexterous young ladies.

Messrs. A. Crawford & Son, Belfast, show "Irish Corn Flour" and "Snow White" starch. The corn flour, so called, is made from wheat, and is consequently more nutritious than the ordinary varieties of corn flour, which are mostly made from Indian corn. The "Snow White" starch is, we are informed, an article for which Messrs. Crawford have a special reputation. It is a wheaten starch, and in consequence is used only by manufacturers of linen goods, or very large laundries, because it is not soluble in boiling water, but requires to be boiled previous to use. This entails too much trouble for small operators. The whiteness of Messrs. Crawford's starch is remarkable. It certainly deserves the name they give it, "Snow White."

Lentils and Lentil Farinas are not so much in fashion at

present as they have been. Messrs. Maclean & Son, Edinburgh, are, however, making energetic efforts to revive any interest in these articles that may be lingering about in a latent condition. In addition to the display of Revalenta, and Indian Pea, or "Dahl," which is the basis of it, they announce their intention of giving away 100,000 free samples at their stand. For the cooking of their Revalenta, Messrs. Maclean give a new method which promises well. The mixed Revalenta and water, with the addition of some Liebig's Extract of Meat, if desired, is allowed to cook slowly in a water-bath for thirty or forty minutes. The *bain-marie* is in constant use by French cooks, but in our British kitchens it is as yet too seldom employed. It is not, in fact, understood by the ordinary cook.

In case that any of the readers of this Journal should suffer occasionally from the errors of their cooks, it may be worth while to introduce to their notice some agreeable stomachics and aids to digestion and remedies for indigestion. For the general public there is nothing better than liq. bismuthi and in. pepsin. Their beneficial effect in the case of a chemist is not so certain. He is so supersaturated, we may suppose, with the atmosphere of drugs that he has become in a sense proof against their effects. Some of the undenoted stomachics may be of more service in his case.

Corvo wines (red and white) from Sicily are highly recommended for certain disorders of the digestive organs. They are in fact introduced as medical wines. The red wine is indicated in those forms of indigestion where the administration of an acid before food is found to be beneficial. It comes with a high character from Italian medical men, and several eminent physicians in Edinburgh have expressed themselves in its favour. The white wine is said to be tonic and aperient, and is recommended as a remedy for constipation. An aperient effect is exceptional in a wine. If this be up to its description, cascara cordial may take a back seat at once. Mr. Robert Jamieson, the wholesale agent here, exhibits these wines.

Messrs. Rutherford & Kay, Edinburgh, exhibit at their stand some special Madeira wines which are described as honest wines full of vinosity and natural salts, and are recommended by the faculty as being most beneficial to persons suffering from dyspepsia in whom sherry so often creates acidity." We can scarcely credit a Madeira with being a remedy for dyspepsia, so we conclude the foregoing description is intended to convey the information that it is "safe" drink for sufferers from this complaint. Messrs. Rutherford & Kay also exhibit samples of their "Dreadnought" Scotch whisky, which they recommend as being equal to the finest French brandy.

GUARANA.*

BY WM. R. NEVILLE.

THE *Paullinia sorbilis* is a climbing shrub, belonging to the class and order of *octandria trigyna* of the Linnean stem, indigenous to the northern part of Brazil. There is another species, the *Paullinia Cupana*, found near the banks of the Orinoco river, bearing seeds resembling, and from which a portion was introduced to the medical profession of France in 1857, and a lengthy paper was written in the *Annals of Therapeutics* in 1858, and again in the *Journal of Pharmacy* in 1861.

Guarana has smooth erect stems, large pinnate alternate leaves composed of 5 oblong leaflets, the flowers having 4 sepals, 4 petals, 8 stamens, and a cylindrical 3-celled ovary and fruit, ovoid or pyriform, about as large as a grape, and containing usually one seed, which is shaped very much like a minute horse chestnut. The odour arising from the dried leaves resembles that of tea.

What is commonly known as guarana, guarana bread, or Brazilian cocoa, is prepared from the seeds as follows:—In October and November, at which time they become ripe, the seeds are removed from their capsules, and sun-dried, so as to admit of the ready removal by hand of the white ovule;

they are next ground in a stone mortar or deep dish of hard sandstone; the powder is moistened by the addition of a small quantity of water or by exposure to the dew; it is then made into a paste with a portion of whole or broken seeds, and worked up into balls, but usually in rolls 5 to 8 inches in length, 12 to 16 oz. in weight; after drying by artificial or solar heat, the product is packed between broad leaves in sacks or baskets. Thus prepared it is of extreme hardness, has a brown hue, and a bitter astringent taste. An inferior kind, softer and of a lighter colour, is manufactured by admixture of cocoa.

Rasped or grated guarana in sugar and water forms a beverage largely consumed in Brazil and other parts of South America. In Mexico the root is used more frequently than the powdered seed, and the natives extol it highly in the treatment of dysentery; some of the lower class make a tea from the roots and use it in the same way as sassafras in this country.

Dr. Martin in 1840 discovered a new principle which he called guaranin, which he claims is identical with caffeine, and is used in the hospitals for the same purpose.

Dr. Austin, in an article in *Braithwaite's Retrospect* says it is practically a convenient form of impure caffeine; it was first prescribed as a medicine in 1817. Some chemists claim they have obtained as high as 6 per cent. of caffeine, which is more than that from any other substance; its therapeutic action is lauded by its prompt relief of headaches; in England it is in popular repute as a stomachic, febrifuge, more especially in dysentery and diarrhoea; in the last disease it is used in doses of one drachm. In 1872 it was used in the treatment of migraine; in 1873 for lumbago; in 1874 in sciatica and blennorrhoea.

A tincture made with 80 per cent. alcohol, 2 oz. of the guarana to the pint, gives a precipitate, while one made with strong alcohol and glycerine keeps clear.

A good Fluid Ext. Guarana may be made as follows:

Powdered guarana	16 troy oz.
Alcohol	8 fl. "
Glycerine	4 "
Water	4 "

Mix alcohol, glycerine, and water together. Macerate the guarana in it for 24 hours; express, pack the guarana in glass percolator, pass through the expressed liquor until 12 fl. oz. are obtained (displace with dilute alcohol until 16 oz. have passed), reserve the first 12 oz., evaporate the 16 oz. of dilute alcohol that have passed through to 4 oz., mix with the reserve. The U.S. Pharmacopœia recommends 3 parts of alcohol to 1 of water.

Elixir of Guarana:—

Guarana, powdered	4 troy oz.
Alcohol	6 fl. oz.
Water	6 "
Glycerine	6 "
Oil of orange	8 drops
Oil of cinnamon	1 drop

Exhaust by percolation to $15\frac{1}{2}$ fl. oz.; to this add the oils dissolved in $\frac{1}{2}$ oz. of alcohol. Mix and filter. Each tea-spoonful represents 15 grains of active constituent of guarana.

Bromated Elixir of Guarana:—

Powdered guarana	300 grs.
Monobromated camphor	100 "
Ext. henbane	15 "
Cloves, powdered	20 "
Coriander, powdered	20 "
Orange peel, ground	96 "
Cochinchinal	5 fl. oz.
Syrup	5 "
Aromatic spirits of ammonia	10 fl. drachms
Brandy	10 "
Cinnamon water	6 fl. oz.

M.

Dissolve the monobromated camphor in the cinnamon water, then rub down the extract henbane, add the clove, coriander, orange peel, and guarana together. Place in airtight jar, and macerate for two days with the spirits; filter and add the syrup. Dose for adult 2 drachms.

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EDITORIAL NOTES.

THE CONFERENCE PAPERS.

THE list of papers to be read at the meeting of the Pharmaceutical Conference to be held in Birmingham in ten days is unusually short. Last year there were twenty-three items in the first announcement, comprising notes on twenty-seven subjects, but on this occasion only sixteen papers are announced. It is noticeable also that these are contributed by fourteen investigators. Were the Conference actually an institution for reading, hearing, and discussing papers only, we might be justified in advising the officers to consider the best means for averting the impending dissolution. It is unquestionable, however, that many of the members use the

few days for recreative purposes, and the existence of local committees is an assurance that that class will be amply catered for. Still, British pharmacy is surely capable of producing more than fourteen investigators. The subjects of the papers are all more or less chemical, and in a small degree pharmaceutical. In this and a second note we propose presenting the more important facts which have already been recorded in each subject, and which are likely to be discussed.

This is a subject in which Mr. Williams has Crystallised Aconitine had long experience, close upon fifty years, as a manufacturer, and it is to be expected that what he will say on the subject will be spoken from a common-sense standpoint. The members of the aconite family are very numerous, and it is a notable fact that the one which is official, viz., *A. Napellus*, is almost a stranger in our markets, and parcels that are met with are seldom of superior quality. As with the root so with the alkaloids. Three varieties at least of nap-aconitine are common in commerce, namely, English aconitine, generally known as Morson's, German aconitine, and French, or Duquesnel's aconitine. These differ very seriously in toxicity, so much so that on several occasions the substitution of one for the other has been attended with fatal results. Duquesnel's alkaloid is crystalline; recently Dr. Squibb has averred that it is nothing more nor less than nitrate of aconitine, but as far as we are aware no one has supported this suggestion. This variety is the most active of the three commercial varieties, being, it is asserted, about fifty times stronger than Morson's. But while these varieties differ amongst themselves, it is also extremely difficult to obtain the same alkaloid twice alike. To overcome all objections, Dr. C. R. A. Wright, who with several coadjutors has done very much work in the chemistry of aconites, chiefly under the auspices of the Conference, has suggested that only the crystallised alkaloid, prepared by a process which he has published, should be employed in medicine. Mr. T. B. Groves, also an authority on the subject, is of the same opinion, and it appears to be a very sound suggestion, for what is a better indication of purity or assurance of constancy than a substance in well-defined crystals? Yet it would appear that crystallised aconitine is not always the same, and Mr. Williams has very strongly objected to its adoption. He states that some roots contain nothing but amorphous alkaloid, and that those which do contain it in crystallised form yield it with exceeding difficulty and at a ruinous cost. Moreover, the fact that the amorphous variety has been used in this country for fifty years is, in his opinion, a strong reason against introducing another variety, the strength of which is uncertain. Fortunately aconitine is not used internally in this country, and is but rarely used at all. If the price of a pure, constant crystalline alkaloid is prohibitive, the advocates for it are playing the part of a child crying for the moon; but on the other hand there is ample store of other aconitines available in other species, and if physiologists would thoroughly investigate these we might then arrive at a source of more constant supply. The draft international Pharmacopœia gives the German alkaloid preference. It is amorphous, but is stronger than the English.

Last year Mr. David Hooper gave good indication in a paper read at Aberdeen that there is good stuff in him, and that he is a worthy successor of Broughton. The importance of the Government cinchona plantations has, from a commercial point of view, diminished considerably since Ceylon planters have gone in for cinchona so furiously; but for that very reason the Government venture has increased in scientific importance. The work of a quinologist in a cinchona plantation is in the

highest degree interesting, and of great practical value to the cultivator, since it reveals the effect on the bark of the various artificial means which are adopted to improve the drug in quantity and quality. Naturally, such a paper as Mr. Hooper's may be little discussed, but that is no reason why it should not get a good place in the programme.

Hymenodictyonine. This is an alkaloid which Mr. Naylor discovered in the bark of *Hymenodictyon excelsum*, a plant which is a native of India, and is closely allied to cinchona. The bark is used as a febrifuge, also, owing to its astringency, for tanning. In his earlier experiments Mr. Naylor showed that hymenodictyonine resembles berberine, quinine, and some other bitter alkaloids; also that it contains no oxygen—rather a rare circumstance for an alkaloid. Later he established its analogy with nicotine, and showed that it has the formula $C_{23}H_{40}N_2$. He also prepared from it an ethyl derivative by treating an alcoholic solution with ethyl iodide. To this derivative he assigned the formula $[C_{23}H_{40}(C_2H_5)_2N_2]I_2$, and inferred from its constitution that the alkaloid is a tertiary diamine. In the paper which is promised we are to hear more about the derivatives.

Mr. Dott read a note on the volatility of iodo-iodoform. He determined that at the ordinary temperature the volatility of this body amounts to 0·38 per cent. and at 100° C. 6·7 per cent. Since then Dr. Vulpius has gone into the subject (July 17, p. 73) and states that 25 per cent. loss at 100° C. is the correct figure. To this Mr. Dott is expected to reply.

This is the old-fashioned Hoffman's anodyne, Spt. Ether. and was introduced into the new Pharmacopeia. It will be noticed that the Pharmacopeia directs the preparation of the oil of wine from 36 oz. of sulphuric acid and 40 oz. of rectified spirit. After certain stages the etherial liquid is exposed to the air for twelve hours, and in some instances the operator has returned at the end of that period to find the whole of the product gone. Thus, if the liquid is exposed to the air in a bottle, we may obtain nearly the whole of it at the end of the prescribed time, but if we use an evaporating dish we may get none. The B.P. does not enlighten us, nor does it explain why two pints of spirit are to be used for three drachms of an ethylic compound. These questions will receive attention at the Conference.

Within the last few years morphine, so far as Artificial commercial value is concerned, has taken Codeine. secondary rank amongst opium alkaloids, and codeine has become the most important base; consequently, the discovery by Grimaux, in 1881, of a process whereby morphine may be converted into codeine is a most valuable chemical acquisition. Morphine has the formula $C_{17}H_{21}NO_3$, and codeine is $C_{18}H_{21}NO_3$, that is, it contains CH_2 more than morphine. Grimaux found that by heating morphine, methyl iodide, and sodium hydrate together in molecular proportions, codeine and iodo-methylate of morphine, with some by-products, were formed. After distilling off the spirit the codeine could be dissolved out with ether. Mr. Dott followed up Grimaux's experiments, and proved that he was right. Since then he has patented a process for the manufacture of artificial codeine, and we take this as an indication that the artificial method is an accomplished fact.

Since its introduction by Dr. Liebreich the new Lanoline. ointment basis has not been much investigated by pharmacists, the paper by Mr. Maben in this Journal (May 29, page 493) being the only one published. The inventors of lanoline claim that it is a mixture of purified wool-fat with 25 per cent. of water, and Dr. Liebreich's latest tests (this Journal, June 26, page 635), show that it is per-

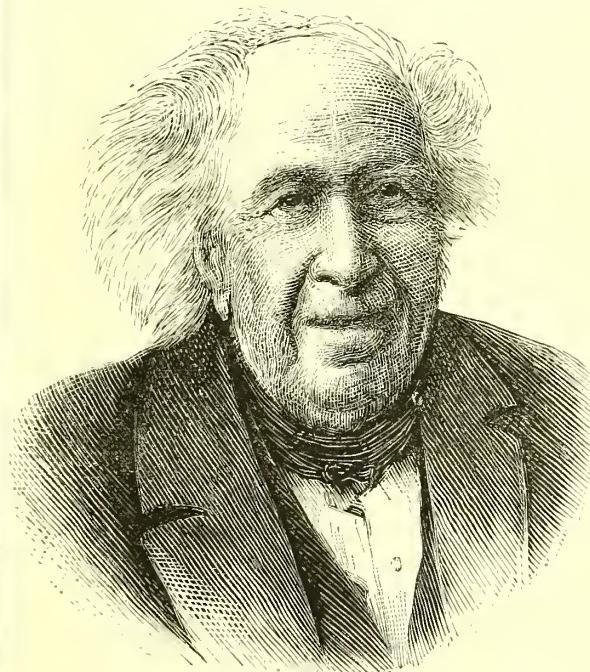
fectly neutral, and, when freed from water, quite soluble in ether. Mr. Maben gives the specific gravity as 0·882 at 10° C., and the melting point of dry lanoline as 37° C. Wool-fats, being non-saponifiable and readily absorbed bodies, are deserving of careful trial. It is regrettable that some means have not been discovered for rendering them colourless, or nearly so; but perhaps Mr. Allen may enlighten us on this point.

Ferri et Quininae Citras. It is well known that preparations are sold under this name which do not contain the Citras. Pharmacopeial quantity of quinine; indeed, they are labelled as 10 per cent., 15 per cent., &c., as the case may be. What becomes of these preparations we may expect Mr. Alcock to tell us; and it would be very interesting and useful if the members of the Conference would discuss the legality of the sale or use of the weaker preparations. The Adulteration Act exists, although authorities are somewhat dormant.

MICHEL EUGÈNE CHEVREUL, CHEMIST, TECHNOLOGIST, CENTENARIAN.

THE impulsive and enthusiastic student youth of Paris are ever ready to honour age and merit. At present they have the unique privilege of doing honour to a man who was a youth when this century began, and whose work as a chemist and investigator was already known and appreciated before the first decade of the century had run out. "Chercher toujours l'infailabilité, sans avoir prétention de l'atteindre jamais," has been M. Chevreul's motto for fourscore years and more, and still he joins in the chimerical chase.

M. Chevreul was born at Angers on August 31, 1786. His father, Michel Chevreul, was a distinguished physician in his



day, and at the time of his son Michel Eugène's birth occupied the positions of physician to the hospital, and professor in the Obstetrical School of Angers. Old Michel lived about sixty years after his illustrious son was born to him, and when he died in 1845 had attained the venerable age of ninety-one.

Michel Eugène received his education in the central school of Angers, and in 1803, when seventeen years of age, pro-

ceeded to Paris, where he became associated with Vauquelin, and was made director of his laboratory. Seven years later his preceptor selected him as preparator in the course of applied chemistry at the Museum of Natural History, and in 1813 he was appointed to the chair of chemistry of the Lycée Charlemagne. Here he continued until 1824, when he was appointed special professor of chemistry at the Gobelins Factory and director of the dyehouses connected therewith, positions which he held until 1879, when the management placed him on the retired list; but out of respect to his feelings—the old man is hurt to think that others should consider him old—they allowed him to retain the professorial chair in the Museum and the full salary attached to his position.

M. Chevreul's career as an investigator began with this work in Paris, but it was the year 1806 before his first important paper was published. All his papers are more or less connected with the industry with which he was so closely connected. The paper upon which his reputation appears to be based was entitled "Chemical Researches on Fatty Bodies of Animal Origin," and was published in 1823. In this Chevreul showed that fats are generally mixtures or combinations of different simple fats, such as olein, stearin and margarin, in variable proportions. This was also observed by Braconnot, but Chevreul's observations went further, for he showed that some fats were quite unacted upon when boiled with an alkali, whereas certain others formed soaps with alkalies and some metallic oxides, that the fats so combining with alkali did not do so in their original state, but that one part of the fats, viz., the fatty acids, combined with the alkali and another part was set free. This second part was the glycerine which Scheele had discovered about fifty years previously by treating fixed oils with litharge and water. But the most important discovery occurring in this investigation was that which led M. Chevreul to the bold assertion that saponifiable fats are analogous in composition to compound ethers, that is, he held that a fat is a compound of a fatty acid or acids with glycerine *minus* a certain quantity of water, just as a compound ether is a compound of alcohol with an acid *minus* a certain quantity of water. For example, in acetic ether (C_2H_5 , $C_2H_3O_2$) we have alcohol (C_2H_5HO) and acetic acid ($HC_2H_3O_2$) *minus* an atom of water, or, in other words, the ethyl radicle has taken the place of a hydrogen atom in the acetic acid. So with the fats. In the case of stearins, which are compounds of stearic acid and glycerine *minus* water, the stearic acid replaces the hydrogen of the glycerine. Stearic acid is $C_{18}H_{36}HO$, glycerine is $C_3H_8O_3H_3$, and when these combine in equal molecules we have mono-stearin formed ($C_3H_8O_3H_2$, $C_{18}H_{35}O$), one molecule of water being set free, just as is the case in the formation of acetic ether. All saponifiable fats behave in a similar manner, and this investigation enabled Chevreul to divide fats into three classes—*unsaponifiable fats*, *fatty or soap acids*, and *saponifiable fats*, and the researches of the most recent investigators confirm his results. For his discovery Chevreul had conferred upon him a grand prize of 12,000 francs by the Societe d'Encouragement pour l'Industrie Nationale. This may be taken as the beginning of a long series of published papers and books, which Chevreul's occupation peculiarly fitted him to write. In 1824 a valuable work on organic analysis emanated from his pen, and following this were a number of treatises about colours and dyeing. The years 1828-31 saw the publication of "Lessons on the Application of Chemistry to Dyeing." Concurrently (1829) he wrote a memoir on the law of the simultaneous contrast of colours, and on the arrangement of coloured objects according to that law—the memoir having special reference to painting. A theory of the optical effects presented by silken cloths

was published in 1848. The versatility of the man's genius was curiously exemplified in his dissertation on "The Divining-rod, the Pendulum, and Turning-tables" (1854), "The History of Chemical Science" (1866), and "Memoirs of the Academy" (1872). Into the latter M. Chevreul was able to import facts and reminiscences from his own long experience, and, as his memory was very acute, the result was a most interesting work, which throws light on many of the most interesting questions of the day. All this time, in a very busy life of lecturing and of laboratory work, he had written much for periodicals, encyclopedias, and the like, and even in 1884, at his ninety-eighth year, we find him communicating a note to the Academy of Sciences on the colour effects, which he had observed with his own eyes, produced by an unusually powerful glare of gas-light. During the recent session he has taken an active part in the discussions at the Academy.

Chevreul has received many honours in his day, and has long been connected with the Jardin des Plantes. He had a chance of being elected to the Academy in 1816, but gave way for an older man—M. Proust—in whose room he was afterwards elected (1826). The Academy in 1872 presented him with a medal in commemoration of his jubilee as an academician, thus recognising in one act his long connection with the institution and the magnanimity which he displayed in favour of Proust. His country has heaped honours upon him, and, if he chose, he could cover his breast with decorations which he has received. British societies have not been slow to recognise his worth. Our Royal Society has enrolled him upon the select list of foreign members; since 1849 he has been on the foreign list of the Chemical Society; and in 1873 the Society of Arts awarded him the Albert Gold Medal for his researches in connection with saponification, dyeing, agriculture, and natural history, while only a few weeks since he received the honorary degree of Doctor of Medicine from the Heidelberg University.

Chevreul's habits are simplicity itself. Our French Correspondent, writing in October last, says of him, he "is well known to be a total abstainer; he never drinks either wine or spirituous liquors. But this is not all. It is stated on reliable authority that he never eats fish; and for the last forty years—that is, since he reached sixty—he takes only two meals a day, at an interval of twelve hours. He rises early, goes to bed early, works hard, and has a lively regard for number one." Regarding these two meals, we learn from another source that he breakfasts at seven from a dish of meat and another of vegetables, both eaten together, and washed down with two tumblersfuls of water. A similar repast serves for dinner at seven in the evening, and the long interval is broken only at noon, when, standing at his chemical bench, he eats a crust of bread. "The old gentleman is a sight to behold," said our correspondent last week. "At the last sitting of the Academy of Sciences (August 9) he was present as usual, and, as usual, had much to say. Although stooping slightly, he walks with a steady step, talks with a good clear voice, and speaks of what occurred in 1818 as if it were yesterday. He looks younger than his photograph makes him appear." This photograph we reproduce. M. Chevreul's luxuriant hair—which at one time allowed him to dispense with the use of a hat, except when etiquette required it—is still abundant; his eye is bright, and the man is so full of spirits and so happy that the students have long styled him "doyen." These same students, on January 4 last, assembled before his house with flying flags to do him honour, anticipating his hundredth birthday. They sent in twenty of their number, who were received by the centenarian in person. Since then he has been prostrated by pulmonary attacks, but again he is as lively as ever. Three weeks ago a series of

fêtes in honour of his birthday commenced. A banquet was given on Saturday, July 31, in the Latin quarter, by the students of the University, in his honour, and great preparations are being made for a demonstration and banquet on the anniversary day, August 31.

FOREIGN COMPETITION IN SURGICAL INSTRUMENTS.

AN interesting correspondence is progressing in the *Daily Telegraph* on the subject of the purchase of goods abroad. Among correspondents giving their experience of the matter have been Messrs. W. Bates & Co. of Southampton, who referred to some of the more recent German innovations in the chemists and druggists' trade. They stated that, from a paper pill-box to delicately-made surgeons' instruments they are driven by the high prices of English workmen to purchase foreign goods. As a typical article they instanced a hypodermic syringe in neat nickel case at 24s. per dozen, which English dealers will not sell at double or treble the price. Messrs. Bates & Co. observe that the foreigner frequently presents his articles in a more elegant style, and conclude that so long as he is a more thrifty and painstaking labourer, working longer hours for less money, so long will the competition grow keener and English trade be depressed.

In reply to this letter, Messrs. W. Windle & Co., of 452 Edgware Road, disputed the statements of Messrs. Bates & Co., stating that they have tested scores of hypodermic syringes, and find a large percentage of the foreign-made ones dangerously inaccurate in their graduation, in most cases holding 50 per cent. more than the figures denote. Imagine, they say, a medical man intending to give the maximum dose of a potent remedy to a patient in this manner; the patient really gets half as much more, and fatal consequences may ensue. Low priced, not cheap, would be the correct term. In response to our request, both of these firms have given us their experience more fully than they could give it in a daily newspaper. We publish their letters in our correspondence column.

The subject is one which ought to be fully dealt with, and we hope to hear further about it. No doubt, in such articles as hypodermic syringes accuracy of measurement is an essential, before which price is a trifling consideration; but accuracy of measurement can be attained as well in Germany as here, and the extra care required to ensure it would not involve much increase in the cost of production. What we want to know is, first, whether it is a fact that any German surgeons' or druggists' sundries are cheaper than English for the same quality; whether, if that is so, there is any ascertainable cause for it; and if so, whether the difficulty is an insurmountable one.

In the replies of the British Consuls to Lord Rosebery's circular lately alluded to, there are many comments on the carelessness and contempt for local requirements which often characterise the method in which British houses do their business abroad, and they contrast with this the scrupulous attention shown by German, American, and French firms to the conditions requisite for doing a permanent business in foreign countries. So far as this charge against British merchants is true, neither consuls nor Governments can help them. Evidently it is of the first importance that British manufacturers should recognise how serious is the competition with which they are now met, and as they have been imitated in the past, so should they watch and follow the systems of their rivals where these are clearly successful.

INSECT-KILLING BOTTLES.

GREEN-GAUZE insect-nets have wonderfully increased of recent years. Once the only persons who sported them at the end of a long pole were sage, sometimes half-crazed, looking individuals, who were an endless source of amusement to sportive boys. There is something comic, indeed, in this too concrete form of the pursuit of knowledge. We see the austere man walk leisurely along, thoughtless of the world; suddenly a rare moth twinkles before his eyes, up go the pole and net—a miss! Now comes the breakneck chase through bush, over heather and rill, until the pretty moth in a rash, fluttering dance is ensnared, and the iron lips of the net's gaping mouth close upon her. Then from the cavernous depths of his ample pocket the man brings out an innocent-looking wide-mouthed bottle, and carefully slips it into the net; hither flits the gay moth, dances within the crystal chamber awhile, folds out her brilliant plumage, and rests for ever. Poor moth!

Short speck of boundless space was needed
For home, for kingdom, world to thee!
Where passel unheeding as unheeded
Thy little life, from sorrow free.

Tempore omnia mutantur. It is now the boys who play, the men who laugh. The poor moth has stirred the Bloomsbury authorities to energetic action, and the innocent-looking insect-bottle is to be brought back to the fold. This bottle is very easily manufactured—and that, perhaps, is the reason why naturalists have pushed the trade. Any wide-mouthed bottle, such as an ounce quinine bottle, or, better, a German-glass pyrogallic-acid bottle, will serve for the lethal chamber. The bottle should be well washed and dried, and from a quarter to half an ounce of potassium cyanide in small pieces is placed in it, then some dry plaster of Paris, sufficient to cover the cyanide, and finally as much water as will moisten the whole, so that when the plaster sets there will be formed a smooth, immovable stratum at the bottom of the bottle. The stratum gives off hydrocyanic acid vapour continuously, and this naturally kills the insects more quickly and with better regard for their beauty than pins stuck through their living bodies. As the entomological craze has grown, the demand for these bottles has increased wonderfully, and it has been met by bird-stuffers, who are not qualified to deal in the deadly poison cyanide of potassium. The Pharmaceutical Council have done well to call the attention of naturalists, and, through the newspapers, that of the public to the danger of the indiscriminate sale of these bottles by others than those legally qualified to sell poisons. Chemists are not jealous of the trade which naturalists have been doing; it is too small for that; but they have a right to whatever trade belongs to them, and equally they ought not to put any obstacle in the way of supplying legitimate demands for potent articles. Insect-killing bottles sell at sixpence or ninepence each, according to the value of the bottle; no one will ever make a fortune by them—but that matters little. As for the Pharmaceutical Council, they have made a new departure for the protection of the public and the trade, and we trust that they will not allow their energies to flag, for there is a great deal to do before illegal trading in poisons is stamped out.

SUICIDE OF ANIMALS.

In the August issue of the *Nineteenth Century* there appeared an article by Mr. Briggs Carlill entitled "Are Animals Happy?" in which the author contends that animals have no mental worries, and never commit suicide. This view is

opposed by several correspondents in the *Echo*, and many instances of suicide among animals are quoted. It is pointed out that Captain Marryat, in "The Travels and Adventures of M. Violet among the Snake Indians" (1843), narrates several instances of suicides of animals, and that *Chambers's Journal* (November, 1880) mentions the suicide of a cat. As regards snakes, a Norfolk vicar writes that, during his residence in a part of the Australian bush much infested by the red-bellied black snake (*Porphyriacus superbus*), he has frequently observed a wounded snake committing suicide by biting itself to death, but whether the snake does this in mere frantic fury, or to deaden pain, he cannot say. The common scorpion, when surrounded by fire, and after finding that it has no possible means of escape, has been observed to flex its tail over its back and drive the envenomed sting at its extremity into its body, and thus destroy its own life. The keeper of Norbury Park, in Surrey, caught a young rook, just old enough to have found the use of its wings. To prevent its escape from the long garden attached to the cottage, its wings were clipped. The rook attempted to fly the hedge, and of course failed. But he perseveringly tried again and again for several days. Then he stalked along the bottom of the hedge, seeking for any loophole promising a means of escape, but without success. The rook then deliberately, time after time, went with his head down "full butt" against the sharp flints of which the cottage wall was built, and on picking him up his skull was found to be fractured. About two years ago Mr. Knight, the American consul in Kimberley (South Africa), had a favourite old retriever bitch, called Yock, who had had a litter of pups, one of which by accident was severely trodden on. The poor thing was picked up and taken to Mr. Antony Davison, a chemist, who attended to its sufferings; but this was of little avail, and the little creature died. When the mother saw her pup and found it to be dead she rushed out of the shop and deliberately jumped into a well, 280 feet deep. Of course she was drowned.

Humboldt, in his South American travels, recounts a story of two pumas who were observed in deadly combat with a python. One of the pumas succumbed to its embraces, and the other was left alone with his dead companion. He surveyed its corpse with evident grief, and vainly tried to restore his friend to life by licking its paws. When he found that his sympathetic attentions were to no purpose, the puma first lay down beside the dead body, and then, after a brief rest, walked slowly to a shelving ridge of rocks which overlooked the river, and, with a mournful roar of misery, leaped headlong over the rocks. A cat, whose kittens had been drowned, was seen to dash out of the house and plunge into the ornamental pond in front. She was quickly rescued, and a little brandy given her. Later in the afternoon, however, she spied an opportunity to get out again, ran to the pond, and, plunging in, was drowned before she could be again recovered.

COMPOSITION OF STIGMATA MAYDIS.

CORN silk has been examined by Messrs. Rademaker and Fischer, who report their results (*Amer. Journ. Phar.* p. 360). Amongst the more important constituents found were fixed oil, 5·25 per cent., light yellow in colour, saponifiable, solidifying at 50° F., and insoluble in alcohol. Resins and colouring matter (chlorophyll) existed to the extent of 2 per cent., and dissolved along with them by alcohol and ether was 1·25 per cent. of maizenic acid, which was first discovered by Dr. Vautier. This acid is freely soluble in water, ether, and alcohol, but insoluble in petroleum spirit. It decomposes the alkaline carbonates, and its salts are crystallisable, the potash salt forming rhomboidal prisms.

REVIEWS

AND Literary Notes.

Proceedings of the American Pharmaceutical Association at the thirty-third Annual Meeting, held at Pittsburg, Pa., September, 1885. Philadelphia, 1885. Pp. 694.

A LARGE part of this volume is taken up with the usual report on the progress of pharmacy from July 1, 1884, to June 30, 1885, by Mr. C. Lewis Diehl, who continues to perform his task in a most thorough manner. We observe that the report this year is preceded by a brief synopsis of the meetings held and work performed by the State pharmaceutical associations. This conveys a good idea of the valuable nature of these associations; they all seem to be imbued with a determination to take up practical subjects, and in view of a change which must come over the national association sooner or later, it is well that the smaller bodies should be carefully looked after.

The abstracts of pharmaceutical papers, whether relating to pure pharmacy, *materia medica*, or chemistry, are quite up to the former standard so far as conciseness and practical interest are concerned. The illustrations—generally well done—which are printed with the text are so useful that their number could be increased with advantage. In addition to the pharmaceutical papers read at the annual meeting, of which abstracts duly appeared in THE CHEMIST AND DRUGGIST, the volume also contains the annual reports on the drug market, on legislation, and on patent medicines; the former shows the fluctuations which various articles have undergone during the twelve months. The notes on the quality of supplies, which used to form an important part of this report, have now almost entirely disappeared, so that it is a matter for consideration whether the rest should not follow. In an appendix is given a reprint of the "New York and Brooklyn Formulary of Unofficial Preparations," which we reviewed in June, 1884. This comprises eighty-one formulas, of which fifty-two are for elixirs. The compilation is an honest attempt to meet the keen competition in proprietary specialities—with what success time alone will determine.

The frontispiece to the volume on this occasion is an admirable portrait of the late Mr. Henry B. Parsons, the young American pharmacist who in his too short life succeeded in accomplishing much excellent work in pharmacy, as a practical pharmacist, chemist, editor of the *Druggists' Circular*, and as one of the most energetic compilers of the last edition of the United States Pharmacopeia.

The Gas Engineers' Chemical Manual. By J. Alfred Wanklyn, London: The Scientific Publishing Company (Limited). 1886. Pp. 76.

IT would seem there is no immediate prospect of the extinction of the class of men for whom this little manual is written. The adoption of the electric light as the light of the future is still in the very dim and distant future, and gas holds its own as an illuminant and as a source of heat, and it may safely be said that while we have good and cheap gas it will be a difficult matter to drive it out of the field. Apart from its use as an illuminant, the application of gas as a source of heat is capable of great development. But a powerful heat-giving gas is generally a poor light-giving one. Why this is so is fully explained in the manual before us. The author writes pleasantly on the theoretical part of his subject—on coal, coal gas, and the by-products of manufacture; and, as he addresses constituents amongst whom there may be some who have not studied chemistry in a systematic manner, he is careful to give explanation of chemical problems, which to others may appear quite elementary in their nature. But the direct value of the book lies in the analytical processes. These to a great extent have been designed by the author, and he has had much practical experience with all of them. The methods are very simple and easily worked out, and the explanations and rules for calculating percentages are also free from ambiguity.

Medical Gleanings.

APPROXIMATE ESTIMATION OF CARBOLIC ACID SOLUTIONS.

PROFESSOR MATTHEW HAY (Aberdeen University) suggests (*Lancet*, p. 243) a simple means for distinguishing the 1-in-20 solution of carbolic acid from the 1-in-40. Both solutions are extensively employed in surgery, and the stronger solution may be hurtful, the weaker useless, in different cases; hence the usefulness of a simple test which may be applied readily and with little trouble. The test depends upon the fact that when a 5-per-cent. aqueous solution of carbolic acid is mixed with an equal volume of saturated solution of common salt at the ordinary temperature an opaque mixture is formed, due to part of the carbolic acid being thrown out of solution. It is advisable to add the acid solution to the salt solution, and if this be done (for the sake of experiment) drop by drop, it will be observed "that each drop produces a small white cloud of separated carbolic acid, which disappears at once with a single shake of the test-tube until the carbolic solution added is equal to about one-fourth part of the salt solution, when the separated acid no longer disappears on shaking. With every further addition of the carbolic solution the amount of separated acid increases, the fluid meanwhile becoming more and more opaque. The density is greatest when from three-fourth to four-fifth parts of the carbolic solution have been added to one part of the salt solution. With further addition of the solution the acid begins to be redissolved and the milkiness to disappear, and the mixture becomes almost perfectly transparent when about two parts of the solution have been added." The reaction necessarily varies with temperature, a clear mixture being formed at 74° F., similarly with lower temperature somewhat weaker solutions give the same cloudiness. A 1-in-40 solution gives a clear mixture with an equal volume of the salt solution. The test is rendered more sensitive by making the salt solution with water containing 1 per cent. of carbolic acid. Such a solution gives a cloudy mixture with carbolic acid solution of 3½ per cent. strength, and with solutions stronger than 4½ per cent. it gives cloudiness, even though the temperature be as high as 93° F. Further, a crystal of common salt will precipitate carbolic acid from a saturated (7½ per cent.) solution. As to liquid carbolic acid, containing 10 per cent. of water, Professor Hay says, "It happens frequently that, for convenience, chemists prepare the carbolic solutions from liquid carbolic acid, and at least one of the best-known makers of the acid states on the label affixed to the bottle that, in dispensing the acid, the water may be disregarded. If chemists follow this instruction, and a 5-per-cent. solution be prepared by weight, it will contain only 4·5 per cent. of pure acid, and will therefore not give the above reaction. If it be prepared by volume, as is likely in many cases, then, as the specific gravity of the liquid carbolic acid is greater than that of water, being about 1068 (he found one specimen of Calvert's to be 1070), a solution of greater strength is obtained, containing about 4·82 per cent. of acid, and therefore of sufficient concentration to give the reaction. It is thus quite easy to distinguish by means of the reaction carbolic solutions made from liquid and from crystalline carbolic acid, if both have been made by weight."

MOUNTAIN CURE OF PHthisis.

IN reference to the mountain cure for phthisis, the *Lancet* states that the most essential characteristic of the air at high altitudes is its rarefaction. Speaking broadly, rarefaction is but slightly appreciable at any elevation under 2,000 feet, but becomes marked at every rise of 1,000 feet above this level. The favourite Swiss sanatoria for phthisis, such as Davos, St. Moritz, Samaden, Pontresina, &c., are at elevations of 5,000 feet and upwards. In the Andes the sanatoria are at much higher altitudes, Bogata, Arequipa, &c., being from 9,000 feet to 10,000 feet above sea-level. The first effect of rarefied air upon the lungs is to provoke deep and full respirations, thus promoting pulmonary expansion and affording a favourable condition for the absorption of morbid deposits. It is evident that such conditions might be expected to exercise a favourable influence upon phthisis. The fact that tubercle has by preference its seat in the apices, the least

functionally active part of the lungs, is a hint to us that in the treatment of the disease we should seek to promote activity, and not quiescence, of the pulmonary organs. The great difficulty is, no doubt, with the haemorrhagic cases. Rest is wisely enjoined where haemorrhage exists or is threatened, but it seems no less certain that the deposit of tubercle is favoured by an invalid life of sedentary inactivity.

LARGE DOSES OF TINCTURE OF LORELIA.

DR. SYLVA NUNES, of Rio de Janeiro, recommends in treatment of asthma the use of lobelia in large doses. The reason why this preparation has fallen into disuse is, according to the writer, because it has not been administered in sufficiently large quantities. Dr. Sylva Nunes never gives less than 15 grammes ($\frac{1}{2}$ oz.), and his maximum dose is 30 grammes (1 oz.) per day. When the maximum dose is administered toxic symptoms are never met with. Sometimes vomiting takes place; but this should not cause discontinuation of the treatment.

S A L O L.

THIS new antiseptic and antipyretic is a phenyl ether of salicylic acid ($HC_6H_4O_3$), the radicle phenyl (C_6H_5) replacing a hydrogen atom of the acid, thus giving $C_6H_5C_7H_3O_3$, or more correctly $C_6H_4(OH)COOC_6H_5$. Since the publication of a note on the substance in this Journal (June 26, page 626) its action has been further investigated by Dr. Sahli, of Berne, and also by Prof. Löwenthal, who communicates a paper on the subject to the *Sémaine Médicale*. It is well known that salicylic acid and its salts produce many untoward effects when administered internally, which greatly militate against their undoubted value in the treatment of acute rheumatism, and many chemists and therapeutists have long aimed at producing a substance which will possess the better properties of salicylic acid, especially its power of warding off endocarditis, without its liability to produce secondary effects. It would appear from experiments which have been made, although they are yet imperfect, that salol is such a substance. As already stated, it is a white crystalline powder, of feebly aromatic odour (recalling oil of wintergreen) and almost tasteless. Merck states that it can also be obtained in rhombic crystals, melting at 42° C. to a clear, colourless liquid, which can be cooled much below that point without solidifying, unless it be touched with a glass rod. Its freedom from taste appears to be due to its insolubility in water; it dissolves, however, perfectly and rapidly in alcohol, benzol, and ether.

Salol has been administered in doses up to 8 grammes (5*ij.*) per day, without bad results, and noise in the ears has been seldom observed. The dose, however, must be modified to the case, just as that of salicylic acid is; for example, in phthisical cases doses of 0·5 gramme should be used at first, because it is undesirable in these cases to lower the temperature too quickly. It is supposed that salol is unaffected in its passage through the stomach, and that it is not decomposed until it reaches the duodenum and is acted upon by the pancreatic secretion. Certainly its administration is not followed by toxic symptoms, such as would be expected by rapid absorption of phenol by the stomach. When treated with pancreatic extract, the body is resolved into its component parts; moreover, it acts as well when administered *per rectum*. The urine of patients is found to be almost black in colour, due to the presence of oxidation products of phenol, consequent on the absorption of phenol products into the blood and subsequent oxidation of these during circulation.

Salol may be applied externally as a dusting powder. Its insoluble nature makes it peculiarly applicable for this purpose, and it has been used with benefit for excoriated surfaces and fetid wounds. It prevents the development of bacteria, but does not kill them. As a mouth wash and as an injection it is used in solution with alcohol and water, but for the latter purpose it is more desirable to suspend the finely powdered salol in water with tragacanth or starch mucilage.

The reaction of the body with pancreatin may advantageously be employed as a test for its identity.

FRENCH PHARMACEUTICAL NEWS.

(From our Paris Correspondent.)

THE VOLTA PRIZE.—The French Minister of Education has fixed the month of December, 1887, for the award of the Volta Prize of 50,000 francs (2,000*l.*). This prize was offered, by decree of June 11, 1882, to the discoverer of the most economic means by which electricity can be practically applied as an originator of heat, light, chemical action, or mechanical power; or for the transmission of messages, or the treatment of the sick.

PHARMACEUTICAL LEGISLATION.—It has long been admitted by all that all the legislation concerning pharmacy in France requires a thorough remodelling to make it more simple, harmonious, and definite. For several years past various Bills have been elaborated and presented to Parliament, but after being amended almost out of shape, they all failed to become a law. The latest Bill, that of M. Naquet, has been before the Legislature some two sessions, but it meets with such opposition that it appears likely to have the fate of its predecessors. It would, therefore, be a waste of space to detail its provisions. One of its most important clauses relates to the abolition of the diploma of pharmacist of the second class, in accordance with a resolution voted at the Brussels International Congress. But so slight a hope of the passage of the Bill is entertained, even in official circles, that President Grévy has just issued a decree—under the advice of the Superior Council of Public Instruction—regulating the conditions for obtaining the very degree that the Naquet Bill proposes to abolish.

The object of the decree is to specify the examinations to be undergone, previous to matriculation in schools of medicine or pharmacy, by the candidates for the diplomas of pharmacist of the second class, or *officier de santé*, a medical degree corresponding somewhat to the practising surgeon or apothecary in England. Changes in the university programmes have rendered such a new regulation necessary; otherwise the second-class pharmacist remains, as formerly, entitled to practise only in the Department where he has received his diploma.

Briefly stated, the provisions now spoken of are as follows:—

From November 1, 1887, candidates for the diplomas of *officier de santé*, or pharmacist of the second class, shall, unless they hold the degree of Bachelor of Arts, undergo previous to matriculation the following examination before a jury appointed by the rector of the academical district.

Written examination: (1.) A composition in French on some simple given subject, such as a letter, narration, &c.

(2.) A translation from the Latin, or from the English or the German languages. In either case the text is to present about the same difficulties as are offered in the authors read in the fourth form of the Government colleges. [This would correspond, for the Latin, to Tacitus, or Caesar's "Commentaries."]

Three hours shall be allowed for the French composition, and two for the translation. The candidates failing in this part shall not be allowed to present themselves for the next or oral examination, which shall be on the following subjects:—

(1.) Comments on a text taken from a French author read in the first, second, third, or fourth year of the special higher teaching.

(2.) Questions on the elements of arithmetic, geometry, and algebra. (Programmes of the first, second, and third years.)

(3.) Elements of physics and chemistry. (Second, third, and fourth years.)

(4.) Elements of natural history. (First, second, and fourth years.)

The oral examinations shall last three-quarters of an hour in all.

It will be noticed from the foregoing that after November, 1887, the knowledge of Latin will no longer be necessary for obtaining in France the diplomas of pharmacist of the second class, or *officier de santé*. Latin is to be only optional, English or German being considered fully equivalent. This move is in keeping with the new craze now raging against the classic tongues and in favour of the living languages. The "special

higher teaching"—*enseignement secondaire spécial* is the newly-coined expression for it—is an outcome of the same doctrine which tends to the abolition of Greek and Latin, and the substitution of modern languages therefor. Never was there a greater mistake in this country, for a good knowledge of Latin is absolutely necessary for a thorough understanding of the French language.

ARMY PHARMACISTS.—Just as the Minister of the Navy has been reorganising the pharmaceutical service in his department, the Minister of War is proposing the abolition of the same service in the army. General Boulanger has probably no personal opinion in the matter; more likely he is made use of to serve the rancour of some army surgeons who can never forgive the equality of rank and pay enjoyed by their brethren of the bronze-green velvet collar.* But the Army Bill slowly drags along with indifferent chance of success. It has many open enemies, and others, who pretend to favour it, secretly hope to see it defeated. There are many ways of strangling a Bill without voting against it openly.

MICHEL EUGÈNE CHEVREUL (whose approaching 100th birthday is already being celebrated in Paris) became connected with the Jardin des Plantes in 1810, when he was engaged as assistant (*préparateur*) by Vauquelin, the celebrated chemist, who was the first Director of the Paris College of Pharmacy, after its reorganisation by Bonaparte. In 1831 Chevreul came to live in one of the houses erected within the Garden for the use of the professors teaching in the Museum, and continued delivering public lectures on chemistry until 1883. Since then he has had as a substitute, Professor Guignet, the discoverer of the Guignet chrome-green; but, although retained with the title of honorary professor, he is said to have felt keenly the involuntary retirement.

His residence is a large, comfortable-looking, but very old-fashioned mansion, the court of which opens on one side of the Gardens, and on the other on the Rue Cuvier. Chevreul is a widower, his wife having died in 1862, and he has a son now 70 years old. His household consists of Denise, the housekeeper; Isoline, the cook, and a coachman. Denise is quite a character. She has been forty years in Chevreul's service, and is not a little proud of her master's old age, which, she thinks, is to a great degree due to her constant care and attention. She is not perhaps wrong there altogether. Her only pre-occupation is to minister to his wants, to forestall all his wishes and fancies. As he hates to be disturbed by strangers, she stands watch and guard over his privacy, and will not allow a reporter within earshot. During his late sickness she would coax him like a child to make him take his medicine. For her and Isoline the whole world is contained within the precincts of the Jardin des Plantes, and their master the only being of consequence therein. In thirty years they only went six times to the theatre. Isoline, the cook, has the ways and deportment of a true *cordon-bleu* who appreciates the dignity of her office and means to live up to its requirements. Her master's tastes are very simple, but she will have everything of the best for him. She simply worships him; she can enumerate all his chief discoveries, and then she will add, "But he is so disinterested, he never tried to make any money out of his inventions, else he would be to-day a hundred times a millionaire!" And, indeed, Isoline is not very far wrong in her appreciation. She has been twenty years a member of Chevreul's household.

The coachman is comparatively a new comer, as he has been only fifteen years in the house. His sole care is to mind the old horse and to drive his master to the Academy of Sciences, the Agricultural Society, and the Gobelins on stated days at a precise hour and by a route that must never vary. Only lately a short drive in the Bois de Boulogne has been indulged in after the scientific meetings. When the old steed is disabled Chevreul takes a hired coach, but his coachman insists upon driving himself or sitting by the side of the driver. As a visitor was one day complimenting the two women on the length of time they had remained in the same service—a rare thing nowadays—one of them replied, "Well, sir, you see, good masters make good servants."

* The army surgeon and the army pharmacist wear precisely the same uniform, with the sole difference that the collar, képi-band, and cuffs of the first are of garnet-coloured velvet, while for the second they are bronze-green.

TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"Any person who has good grounds of objection to the registration of any of the following marks may, within two months of the date of this journal, give notice in duplicate at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1883, of opposition to such registration." All communications relating to patents, designs, or trade-marks to be addressed to H. Reader Lack, Esq., Comptroller-General of Patents, Designs, and Trade-marks, Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

From the "Trade Marks Journal," August 18, 1886.

"GREGORY'S WASHING POWDER," on label, with figures of a laundress and children blowing soap-bubbles; for washing powder. W. Gregory, Park Soapery, Radcliffe, Lancashire. 46,707.

"FLORILINE"; for a medicinal preparation for human use (50,284); also "MEXICAN HAIR RENEWAL," for the same purpose (50,286). The Anglo-American Drug Company (Lim.), 33 Farringdon Road, E.C.

Monogram, the letter "K" with scroll bearing designation of applicants; for brushes for household, toilet, and stable use. G. B. Kent & Sons, 11 Great Marlborough Street, W. 51,600.

"PATERSON'S UNFERMENTED FRUIT WINES," and other wording, on label ornamented with fruit; for unfermented fruit wines. R. Paterson & Sons, 33 Osborne Street, Glasgow. 51,650.

"MRS. ELLEN HALE'S CELEBRATED HEAL-ALL OILS AND OINTMENT," on label, with portrait; for ointment and medicated oils for human use. Ellen Hummerstone (trading as Ellen Hales), 86 Brandon Street, Walworth, Surrey. 51,690.

"BORTHWICK'S WINTER CREAM," and other wording, on label; for a toilet preparation for the skin. A. J. Borthwick, 6 Market Place, Selkirk, N.B. 52,017.

"BROWN'S BRONCHIAL TROCHES"; for a medicinal preparation for human use. John L. Brown, 33 Farringdon Road, E.C. 52,384.

"THE BRUSHFIELD HARNESS COMP." and autograph; for blacking. John Goodman, 8 Noble Street, London. 52,399.

"BEECHAM'S PATENT PILLS," and other wording, on circular label; for a medicinal preparation. Thomas Beecham, St. Helen's, Lancashire. 52,719.

"RACKHAM'S HORSE AND CATTLE MEDICINES," with dog's head within a horse-shoe; for horse and cattle medicines. G. Ringer (trading as Rackham & Co.), Upper Great Lane, St. Giles Street, Norwich. 52,947.

Picture of boy blowing soap-bells; for perfumery, including toilet articles, preparations for the hair and teeth, and perfumed soap (53,005). The same for chemical substances prepared for use in medicine and pharmacy (53,661). A. & F. Pears, Great Russell Street, Bloomsbury.

"INFALLIBLE RESIN" and "INFALLIBLE OIL," and other wording, on small oval labels; for musical instruments. R. R. Shields, 188 Oxford Street, Manchester. 53,270-1.

"THOMSON'S AERATED LEMON SQUASH," on fancy label; for an aerated beverage, namely, lemon squash. W. Thomson, Lemon Street, Aberdeen. 53,427.

"DAVID CLARKE'S EUCALYPTUS LIVER AND BILIOUS PILLS," and other wording, on label; for pills for human use. David Clarke, Maryborough, Queensland. 53,476.

Arms, a horse's head upon a crown, within circle bearing applicant's name, &c.; for mineral and aerated waters. W. A. Wilkinson, King Street Hall, King Street, North Shields. 53,501.

"PINKOLEUM," on picture of a ship, and other wording, on circular label; for mineral illuminating oils. E. Phillips (trading as Petroleum Trading and Carrying Company), 84 Bishopsgate Street Within. 53,529.

A picture representing a man churning, with a farmer and ladies looking on; for preparations for improving, preserving, and colouring milk, butter, and cheese. C. K. Tomlinson & C. P. Hayward (trading as Tomlinson & Hayward), Lincoln. 53,543.

Picture of woman wheeling a barrow with a hive upon it, and wording; for honey. D. A. Thomas, 23 Cornhill, E.C. 53,557.

"THE HONEYMOON SOAP," and autograph; for household soap, not perfumed. C. Greaves, 90 and 93 Oxford Street, Manchester. 53,564.

"JUBILEE"; for articles of perfumery. J. L. Grossmith, 85 Newgate Street, E.C. 53,593.

Figure of a winged lion with a ball under its left front paw; for medicines for human use. H. Potter & C. G. Clarke (trading as Potter & Clarke), 75 Weston Street, S.E. 53,626.

Monogram of applicant's initials; for mineral and aerated waters. T. D. Kirkup, 22 Lambton Street, Sunderland. 53,656.

"PEARS," "A. & F. PEARS" (as autograph), "A. & F. PEARS" (in block letters); all for common soap. A. & F. Pears, Great Russell Street, Bloomsbury. 53,662-4.

"WEST INDIAN ABRUSINE CORN SOLVENT;" for a corn solvent. C. F. Wilks, 60 Blond Street, Battersea Park Road, S.W. 53,709.

Picture of a fingerpost, with "Lea's Essences of Horehound," and other wording thereon; for a patent medicine for human use. William Lea, Castle Northwich, Cheshire. 53,792.

"BOKÖL;" for a preparation of malt containing alcohol. Davis, Bergendahl, & Co., 3 Indian Kings Court, Quay Side, Newcastle-on-Tyne. 53,856.

"RELIANCE," and autograph; for paints, colours, and varnish. Francis Williams, 283 Broad Street, Birmingham. 53,992.

Personabilities.

MR. H. S. WELLCOME (Burroughs & Wellcome) has left England for a few months' trip to the United States, Cuba, and Mexico.

MR. JONATHAN STEPHENS, A.P.S., who commenced business about four years ago at 114 Fore Street, Devonport, has now opened a branch establishment at 31 Albert Road, Morice Town.

ACCIDENT TO DR. B. W. RICHARDSON.—Dr. B. W. Richardson, F.R.S., the president of the Society of Cyclists, has had a narrow escape when riding a tricycle. He was passing the corner of George Street and Baker Street on the 11th inst., when a cabdriver, in spite of loud calls, drove into him, wedging the machine against the pavement and one wheel of the cab, locking the steering wheel of the tricycle. Dr. Richardson escaped happily with a few bruises, but suffered next day from stiffness of the muscles, caused by the shake. The cabman, who was drunk, was arrested.

Obituary.

BROWN.—On July 8, Mr. William Brown, chemist and druggist, Newbiggin-by-Sea. Aged 69.

EVE.—On August 1, Mr. Charles Eve, pharmaceutical chemist, Plough Court, London. Aged 44.

HARRIS.—On August 6, Mr. William Harris, chemist and druggist, Faringdon. Aged 66.

HUMBLE.—On July 16, Mr. Thomas Farren Humble, chemist and druggist, Abergavenny. Aged 50.

KERSHAW.—On June 26, Mr. James Kershaw, pharmaceutical chemist, Southport. Aged 65.

LAYNG.—On August 4, Mr. Thomas Bulmer Layng, chemist and druggist, Lewisham, London. Aged 48.

NICHOLSON.—On Aug. 13, at 22 Lansdowne Road, Tottenham, Frederick Nicholson, pharmaceutical chemist, late of 216 St. Paul's Road, Highbury. Aged 49.

MCMILLAN.—On July 13, Mr. John Laker McMillan, chemist and druggist, Maida Hill, London. Aged 70.

WALKER.—On August 1, Mr. Robert Walker, chemist and druggist, Maidenhead. Aged 64.

WATSON.—At Braystones, near Whitehaven, on August 15 Henry Hough Watson, J.P., F.C.S., analytical chemist, of The Folds, Bolton-le-Moors, in his seventy-seventh year. The deceased was one of the few remaining chemists who form a connecting link between chemical science of to-day and that of the beginning of the century. He was a son of the late Mr. John Watson, chemist and druggist, Little Bolton, where he was born on February 19, 1810. When a youth he be-

came a pupil of the celebrated John Dalton, and studied in his laboratory at the Manchester Philosophical Society. Afterwards he was engaged in 1836 by the late Mr. W. S. Rutter, coroner for the borough of Bolton, and subsequently by his successor, Mr. John Taylor. While performing the duties of his office Mr. Watson acted as professional witness in several important cases of criminal poisoning. He also acted as chemist to the Bolton Gas Company from 1836 to 1872. The deceased gentleman was seized with paralysis last Friday, and lost consciousness a short time afterwards. He leaves two sons, John Dalton Watson and W. H. Watson, F.C.S., both of whom follow their father's profession.

WHEELER.—On July 30, Mr. Thomas Milton Wheeler, chemist and druggist, Sydenham, London. Aged 53.

MARRIAGE.

WILKINS—ROURKE.—On the 3rd inst., at St. Margaret's, Ward End, by the Rev. J. R. Davies, William Wilkins to Annie Maria Rourke, eldest daughter of the late John Rourke, chemist, of Birmingham.



PARTNERSHIPS DISSOLVED.

M. FARLANE & SWAIN. Allen and Park Villas, Albion Road, Stoke Newington, physicians and surgeons.

PRITCHARD, W., & W. H. WHITE. East Retford, surgeons.

FIRST MEETINGS.

HERSCHELL, GEORGE A. Moorgate Street, London, doctor of medicine. Aug. 25. 33 Carey Street, Lincoln's Inn.

MOORE, GEORGE. Leeds, mineral water manufacturer (lately trading with S. Kirk as Kirk & Co.). Aug. 20. Official Receiver's Office, Leeds.

ADJUDICATION.

HICKEY, ANDREW. Birkenhead, mineral water manufacturer.

ORDER ON APPLICATION TO APPROVE SCHEME.

ROE, ARTHUR LEGGE. Beech Cliff, near Newcastle-under-Lyme, physician and surgeon.

NOTICE OF DIVIDEND.

KELING, A. Southampton, Warwickshire, patent medicine vendor. Second and final div. of 5s., on and after Aug. 16. Mr. S. O. Miller's, 4 South Bar Street, Banbury.

SCOTTISH BANKRUPT.

SMITH, JOHN, & CO. Lower Gilmore Place, Edinburgh, manufacturers of essence of coffee. To be examined in Bankruptcy Court, Sheriff Court House, George IV. Bridge, Edinburgh, August 26, at 2 o'clock. Creditors will meet in the chambers of Romanes & Munro, 46 Hanover Street, Edinburgh, September 6, at 11 o'clock.

BANKRUPTCY REPORT.

GEORGE A. HERSCHELL, 37 Moorgate Street, E.C.

Doctor of Medicine.

THE summary of this debtor's statement of affairs, together with the Official Receiver's observations upon them, has just been issued to the creditors. The failure took place on July 21 last, and the accounts show total liabilities 544L 0s. 2d., the whole amount being unsecured, against assets 9L 12s. The debtor states that he commenced business in 1882, in partnership, which was dissolved in 1884, and he has since practised alone. He attributes his failure and deficiency to his expenses having been in excess of his profits and income, owing to the falling-off of his practice. He has produced a cash-book showing his receipts only, and states that he has not kept any other books of account. The Court has made an order for the summary administration of the estate.



The following applications for Patents have been registered at the Patent Office.

Blue Dyestuffs.—10,134.—August 9, 1886.—Dahl & Co. Improvements in the manufacture of blue dyestuffs or colouring matters.

Bottle-stoppers.—10,072.—August 6, 1886.—W. Hazlhurst. Stopper for bottles, jars, and other like receptacles.—10,351.—August 12, 1886.—F. West and F. B. Armstrong. Stoppering bottles externally, and applying same to other bottles by altering and adapting them.

Bottles.—10,133.—August 9, 1886.—W. McDonnell. Improvements in bottles.—10,163.—August 9, 1886.—H. Codd. Improved system of marking bottles.—10,240.—August 10, 1886.—O. Gallafent. Bottles for containing aerated waters and the like, and unstopping of same.

Filter.—10,153.—August 9, 1886.—J. Lewthwaite. "Everybody's filter"—a cheap apparatus.

Glucose, &c.—10,164.—August 9, 1886.—H. J. Haddan. Improvement in the treatment of Jerusalem artichoke to prepare it for use in distilling, in the manufacture of glucose, and similar industries.

Glue.—10,347.—August 12, 1886.—G. W. Bremner. Treatment of substances, containing phosphoric acid and alumina, for the manufacture of a mineral gum and glue.

Hygrometer.—10,345.—August 12, 1886.—L. Brockmann. Combinations of gelatine with chloride of cobalt, chloride of copper, and nitrate of nickel oxydul for indicating the moisture of the atmosphere.

Lubricator.—10,114.—August 7, 1886.—M. Falk. A new lubricator.

Morphincarbonic Acid.—10,281.—August 11, 1886.—A. Knoll. Production of the ethers of morphincarbonic acid.

Nipple Protector.—10,142.—August 9, 1886.—H. Taylor. An improved nipple protector.

Oxychinoline.—10,280.—August 11, 1886.—J. Y. Johnson. Manufacture of oxychinoline carbonates.

Rennet.—10,170.—August 9, 1886.—H. J. Haddan. Improvements in the manufacture of rennet.

Soap.—10,226.—August 10, 1886.—H. H. Lake. Manufacture of soap.

Spirit Lamp.—10,147.—August 9, 1886.—R. W. Boyd. Safety spirit-lamp for tea-kettles, &c.

Specifications recently published.

(Postage, 1d. each extra.)

1885.

8,510. W. B. Fitch. Stoppering bottles, &c. 4d.

9,963. S. Robertson. Filters, &c. 8d.

10,212. P. Ockenden. Antiseptic, &c. compound. 6d.

10,957. G. Wright. Applying labels to corks, &c. 8d.

11,492. J. Brock and E. Saye. Distributing acids, &c. to the cisterns of chemical towers, &c. 8d.

1886.

6,842. T. T. Mathieson and J. Hawliczek. Distilling apparatus. 8d.

6,899. S. Waters. Tonic bitters. 4d.

6,956. J. Wallace. Palate plates for artificial teeth. 6d.

7,355. H. H. Lake. Sulphuric acid. 4d.

7,426. C. Petri. Producing ferri-cyanides of potassium, &c. by electrolysis. 4d.

The following Patents have become void through non-payment of renewal fees.

2,043. E. De Pass. Vaginal syringes.

2,062. J. Bussey. Stoppers for bottles, &c.

2,073. T. Nicholls and another. Catheters.

2,086. O. Bowen and another. Deodoriser and filtrant.

2,129. D. Johnson and another. Mercurial air pumps.

Trade Report.

It should always be remembered that prices quoted in this section are as nearly as can be ascertained the lowest that are actually paid for bulk quantities. Considerable allowances have to be added in many cases before ordinary prices can be ascertained, and for many drugs it must be recollect that the range of quality is very wide.

MINCING LANE, August 20.

BUSINESS remains dull in every department of the drug and chemical branches, home traders and exporters being loud in their complaints of the slackness of trade and the unprofitable nature of what little business can still be transacted. The failure of Messrs. van Hoorn & Niemeyer, of Mark Lane, with liabilities of 40,279*l.*, against only 1,526*s.* assets, has further contributed to shake confidence. The failure is ascribed to over-speculation in spices and drysalteries. We understand that the firm of drug-brokers whose collapse we announced the other day are trying to effect an arrangement with their creditors. They maintain that, if time be given them, they will be able to pay 20*s.* in the pound. Reports concerning the present state of the chemical market say that there is little alteration in the volume of business passing. In one or two articles prices are higher, but generally they are steady with a tendency to favour buyers. The advance obtained in *Acetate of Lime* has been maintained and even strengthened, with anxious buyers for prompt delivery at a little below current figures. On the other hand *Carbolic Acid* makers are concerned at the limited number of orders at this season of the year, and are ready to offer inducements to attract customers. There is no abatement in the perplexity of *Alkali* makers. The steady progress of ammonia soda and the want of an increased consumption of bleaching powder are giving the Leblanc soda makers a difficult problem. A steady demand continues for *Nitrate of Soda* and *Sulphate of Ammonia*, values remaining unchanged. It is not unlikely that nitrate may fall still further, seeing that the agricultural demand is now over until next spring, and the requirements for general trades are by no means good. Thursday's drug sales passed off very calmly, although at first a rather larger proportion of the goods offering was sold than has been the case for some time.

ACID (BORACIC).—The experiments to preserve fish by curing it with this acid (to which attention was called in THE CHEMIST AND DRUGGIST some time ago) are, we hear, proving remarkably successful, some fish having recently been inspected in London which had under the boracic acid treatment retained all its original freshness. We hear that the idea is entertained in some quarters to introduce the boracic acid treatment of fish to Ireland. It is thought that fish so cured would command a ready sale in England and contribute to the revival of a drooping Irish industry.

ACID (CITRIC).—The market has not as yet been influenced by the advance in lemon juice, and a small jobbing trade at 2*s.* 3*d.* per lb. is all that can be reported. It is said that business has been done at 2*s.* 2*1*/*2**d.* per lb. for forward delivery.

ACID (TARTARIC) is quoted at rather lower rates, say 1*s.* 7*1*/*2**d.* to 1*s.* 7*2*/*3**d.* per lb. for English—but perhaps less than that would be accepted, two houses on this market having commenced to undersell each other last week. Hence the decline.

TARTARIC ACID MATERIALS are dull. In Sicily the vintage is expected to be a good one; the stock of *Wine Lees* in the hands of sellers is estimated at 400 tons, and prices are slowly giving way.

COCAINE.—Makers have reduced their quotations, *Hydrochlorate* in 1-gramme tubes being now quoted at 1*s.* 1*1*/*2**d.* per gr., and in 10-gramme vials at 1*s.* 1*d.* per gr.

HEAVY CHEMICALS.—The present price for *Alum* in loose lump is 5*l.* 10*s.* per ton, and for ground in bags 6*l.* 2*s.* 6*d.* per ton ex store; demand very moderate. Export trade is not very brisk. *Ammonia*.—*Carbonate*: Trade is confined to a few trifling orders, and price quoted is still 5*d.* per lb., with

a discount of 25 per cent. *Muriate*, 28*l.* for white and 24*l.* grey. *Arsenic* is quiet but steady at 9*s.* 6*d.* per cwt. for powdered white in barrels landed. *Bleaching Powder*.—The demand continues very limited, and prices unchanged at 6*s.* 9*d.* to 7*s.* per cwt. landed. *Borax* in fair demand. English crystals 27*s.* to 29*s.* per cwt., according to quality. *Cream of Tartar* is firm and somewhat scarce at 12*s.* 6*d.* per cwt., but the demand is not brisk. *Soda*.—*Crystals* have been rather sluggish and close of sale, and somewhat lower at 46*s.* 6*d.* per ton ex ship. *Ash* sells in small quantities at 1*1*/*2**d.* to 1*2*/*3**d.* per degree per cwt. landed. *Bicarbonate* steady at 7*l.* 5*s.* to 7*l.* 10*s.* per ton ex warehouse, at which there is a fair demand. *Caustic* has been in better demand, but prices so far are unchanged; cream, 8*s.* per cwt.: 60 per cent. white, 8*s.* 3*d.* per cwt., ex warehouse. *Sulphur*.—*Roll* in moderate demand, and price firm at 8*s.* to 9*s.* per cwt. *Flowers* are rather brisker at 9*s.* to 10*s.* according to make. *Potash*.—*Chlorate* offers at 6*1*/*2**d.* per lb., but orders rather scarce and small. *Bichromate*: A little more demand, and held for 3*1*/*2**d.* per lb. *Prussiate* dull at 7*1*/*2**d.* per lb.

LEMON JUICE (CONCENTRATED).—At the end of last week the largest Sicilian holders, finding that the smaller owners were disposed to give way, and having, it is said, secured the whole of the supply to themselves, suddenly advanced the price of juice from 31*l.* 10*s.* to 34*l.* 5*s.* The latter figure is now the maximum asked, although some dealers quote 33*l.* 10*s.*, but neither price is as yet a real one. Business has been done in London at 32*l.* 10*s.* f.o.b. Messina, and parcels sold at that price are now afloat to here. Private advices from Messina, dated August 11, describe the market there as quiet, and without any demand for export. The price had declined to 30*l.* 19*s.*, at which about 80 pipes were taken for export, after which 31*l.* 12*s.* was asked, but without buyers. For delivery per Jan.—March 24*l.* 19*s.* 6*d.* has been paid per pipe of 130 gallons, on the basis of 64 oz. citric acid per imperial gallon. Freight from Messina and charges in London would amount to about 8*s.* per pipe at present, as the freights are low.

MORPHIA SALTS remain dull of sale, but without quotable change.

SULPHATE OF AMMONIA.—There is a steady demand, and the market has assumed a rather firmer tone, and at Hull prices have even slightly advanced. We now quote grey 24 per cent. in London at 11*l.* 5*s.* to 11*l.* 7*s.* 6*d.*, and at Hull 11*l.* 6*s.* 3*d.* to 11*l.* 7*s.* 6*d.*

SULPHATE OF COPPER.—A further decline has taken place, and ordinary firsts offer at 13*l.* 15*s.*

SULPHATE OF QUININE has remained quiet throughout the week. Prices are unchanged, *Italian* make in bulk being quoted officially at 2*s.* 1*d.* per oz. Messrs. Howards & Sons now quote their preparations as follows: *Acetate of Quinine*, 3*s.*; *Bromide*, 3*s.* 1*d.*; *Chlorate*, 4*s.*; *Hydrochlorate*, 3*s.* 4*d.*; *Iodide*, 4*s.* 6*d.*; *Phosphate*, 2*s.* 11*d.*; and *Valerianate* at 3*s.* 6*d.*; all per oz.

URETHANE is quoted lower, at 1*s.* 5*d.* per oz. in 1-lb. bottles, 1*s.* 6*d.* per oz. in 4-oz. bottles, and 1*s.* 7*d.* per oz. in vials.

ALOES.—A supply of real *Barbadus* was offered in public sale on Thursday, but elicited no offer, the owner requiring no less a price than 7*l.* 10*s.* per cwt., much above value, considering the dull and dark appearance of the goods. *Cape* were offered rather sparingly, and the demand for this variety was very slow. A little was sold at lower rates; 14*s.* to 23*s.* for common soft to medium, partly drossy; and 5*s.* for rubbish. Some fine livery *Curacao* aloes sold at 110*s.*, and very good but darker coloured at 85*s.* to 90*s.*; *Cape-character* at 37*s.* to 42*s.* for good, and 15*s.* to 17*s.* for common burnt. *Socotra* in skins realised 92*s.* 6*d.* to 100*s.* per cwt.

AMBERGRIS.—Three tins were shown, but not sold; some good yellowish grey amber bought in at 95*s.* per oz. nominally.

ANGELICA ROOT.—Twenty-six bales, weighing about 1 cwt. each, were offered "without reserve," but encountered no offer.

ANNATTO SEED.—Twelve bags good bright East Indian are held at 5*1*/*2**d.* per lb., 4 barrels very good West Indian at 6*d.* per lb.

ANTIMONY.—Crude remains neglected. A parcel good Japanese bought in at 17*s.*

ARRAROBA.—Three barrels were offered to-day. The quality was rather ordinary, and no purchaser was found willing to pay the price asked (4*s.* per lb.), although 3*s. 10d.* per lb. was offered. There have been many complaints lately of the undesirable quality of the arraroba now offering; good stuff seems entirely wanting.

BAEL FRUIT.—Some very good fresh fruit, in halves and quarters, was offered at 2*½d.* per lb.

BALSAMS.—Good Maranham *Capivi* held at 1*s. 3½d.*, but nothing is doing in the article. *Peru* quite inanimate; 5*s. 3d.* is still the current quotation, but one broker to-day quoted new good balsam at 5*s.* per lb. *Tolu* dull.

BUCHA LEAVES.—Only eight bales good green round leaves, just arrived, were offered, and are held at the very cheap price of 2*½d.* per lb.

CALABAR BEANS.—Five bags good bold beans elicited a bid of 5*½d.* per lb., but the owner wants 7*d.*, and is not unlikely to get it, the article being scarce.

CAMPHOR.—The market is quiet, *Japan* being offered at 70*s.* per cwt., reweight. In public sale 164 tubs were put up, but no one wanted to go above 69*s. 6d.* per cwt., so the parcel was bought in.

CANELLA ALBA.—There is no demand apparently; and the few bales broken and partly damaged quills offered in sale retired unsold.

CANNABIS INDICA.—Of 73 packages offered, 49 were sold, at 4*d.* to 4*¾d.* per lb. for greenish to good green fresh, 3*d.* for damaged and dusty, and 2*½d.* for very ordinary quality.

CANTHARIDES.—Two barrels *Russian* flies, old crop and showing signs of decay, were brought in at 7*s. 6d.* per lb. No supplies of the fresh crop are yet forthcoming, so far as can be ascertained.

CARDAMOMS are selling at somewhat irregular, but generally cheaper prices. Only 85 cases were advertised for sale, and of these the greater part were disposed of. *Ceylon-Malabar*, good to fine smooth pale pods at 2*s.* to 2*s. 3d.*, an improvement; medium to bold, good, pale, long-clipped, 1*s. 10d.*; fair to good, partly open, 1*s. 7d.* to 1*s. 8d.*; darkish pods, 1*s. 6d.*; ordinary brown and small, 9*d.* to 1*s. 1d.* per lb. Good, brownish *Malabar* are held at 2*s. 4d.* per lb. *Aleppy* and *Mangalore*, though offered, were not sold. *Seed*, common to good, fetched 1*s. 3d.* to 1*s. 6d.* per lb.

CASCARA SAGRADA.—Fifteen bales bought in at 35*s.* per cwt. for good thin bark, slightly mixed with quill; and stout and somewhat unsightly quality.

CASSIA FISTULA.—Eight bags broken and wormy rubbish from Bombay found no purchaser.

CHIRETTA.—142 bales all retired unsold. An offer of 1*d.* per lb. for a dull parcel, showing very much root was declined.

CINCHONA BARK.—The good supply of *Huanoco*, *Loxa*, and other South American barks offered in sale was well competed for; these barks, which are much used on the Continent, have been wanting for some time. Genuine *Loxa* bark, partly damaged and broken, realised 10*d.* to 1*s. 6d.* per lb.; spurious *Loxa*, partly severely damaged, 2*d.* to 9*d.*; grey bark, ordinary broken to fine quills, 10*d.* to 2*s.*; *Lima*, partly broken to grey and mossy quill, 3*½d.* to 8*d.*; stout to thin brown *Huanoco* quill, 8*d.* to 2*s.*, and a few packages *Calisaya*, very good flat yellow, 2*s. 5d.*; stout orange-coated, showing a good deal of epidermis (imported 1883), at 1*s. 3d.* per lb.

CITRONS IN BRINE.—Some business has been done at the rate of 12*s. 10d.* per pipe, f.o.b. Messina.

COCA LEAVES.—No improvement can be reported. A few bales *Truxillo* leaves sold at 10*½d.* for sound, and 8*d.* to 9*½d.* for sea damaged.

COCOA BUTTER.—Another public sale of Cadbury's guaranteed genuine cocoa butter took place on August 17 when 100 cases (each 2 cwt.) were rapidly sold at 10*¾d.* to 10*½d.* per lb.—an advance of 1*¾d.* to 1*½d.* per lb. The market closes very firm. The stuff was bought for consumption. As a speculative article, it presents few attractions, its

chief use being as an ingredient in confectionery. When the price is low the confectioners are large buyers; but when it advances too much they find a cheaper substitute.

COLOMBO ROOT is offered from all sides, and nobody showed any disposition to buy, there being every indication that the article is likely to give way still further.

CUBEBS.—At the end of last week some private transactions took place at 14*s. 2s. 6d.* for arrival. In public sale several parcels were offered, but only a few lots were sold; good genuine berries, mixed with stalks, and very dusty, at 13*s. 10d.* per cwt.; pale bold berries, rather stalky, at 13*s. 15d.*. *Cubebs stalks* are held at 52*s. 6d.* per cwt., but no one seems at present to require them for grinding.

DRIED FLOWERS.—The parcel of *Butea frondosa* leaves, to which we first called attention in our issue of March 6 last, was again offered. The owner appears to get tired of it, but cannot find a purchaser.

ELATERIUM.—Fair polish *Malta* squares are offering cheaper, at 2*s. 2d.* per oz.

ERGOT OF RYE.—A few bags were placed in sale. 11*d.* per lb. was refused for good clean *Russian*. Some wormy *Spanish* ergot also retired unsold.

GALANGAL ROOT.—326 bags and mats, partly sea-damaged, but otherwise of fair quality, were sold "without reservc" at very low rates, viz. 7*s. 6d.* to 8*s. 3d.* per cwt.

GALLS.—Good blue *Turkey*, mixed sizes, are held at 55*s.* per cwt.; green ditto at 53*s.* per cwt.

GENTIAN ROOT remains unchanged at 17*s.* per cwt.

GUM AMMONIACUM very neglected. Some very common siftings were quitted at 57*s.* per cwt.; but 35*s.* is the price asked for fine pale drop, small to bold, and 32*s.* for small ditto.

GUM ARABIC has been in very good demand lately. All kinds are quoted at an advance. A good business has been done in Aden variety at 83*s.* to 92*s. 6d.* per cwt. for ordinary specky, to good fair pale gum. Red and brown Amrad kinds were 2*s. 6d.* to 5*s.* dearer. Siftings sell in many cases at a considerable advance. Barbary is now held at 92*s. 6d.* and 95*s.* per cwt. A few lots of ordinary Oomra have realised 73*s.* to 76*s.* per cwt.: an extreme price when the quality is considered. For Senegal, higher prices are asked and have been paid for small quantities, 6*d.* for Galam and 6*d. 2s. 6d.* for Bas du Fleuve are now quotations. Of Talca and Ghezira, one or two parcels are offering, middling quality at 95*s.* per cwt., and fair pale rather small at 110*s.* per cwt. In Turkey sorts we do not hear of any sales worth noting. Cairo advices state that there has for some time been a complete cessation of arrivals from the interior. The small stock of Arabic still existing has been disposed of almost completely at very firm prices. There now remains at Cairo, it is said, only one lot of 40 serons in first hand, and this would most likely be sold as soon as the owner had returned from a short journey. The exporters are without any stock. The latest sales at Cairo were composed of 106 serons, Turkey sorts, mostly seconds, all unsifted, which realised from 181*s.* to 192*s.* per cwt., f.o.b. Alexandria. It appears certain that future arrivals from the interior will be of extremely small importance. According to latest reports no supplies whatever are on the way to Cairo. A somewhat considerable decline has been experienced in Egypt by the different Red Sea gums, but the market closes firmer with a steady inquiry. The price f.o.b. Alexandria is 76*s.* to 92*s.* according to quality.

GUM BENJAMIN.—There was a large supply of the different varieties, but the sales were small, and prices show no improvement. There were no less than 18 cases *Siam* catalogued, mostly of excellent quality; very small loose almonds and siftings realised 16*d.*; partly blocky grain 12*s. 7s. 6d.* *Sumatra* sold at 145*s.* to 160*s.* for good almond, and 80*s.* for ordinary, f.a.c packed; *Palembang*, very ordinary to common at 48*s.* to 77*s. 6d.* per cwt. Some very fine gum of this variety was shown and bought in at 120*s.* We call attention to a letter from Messrs. Pocock & Co. in our correspondence columns.

DRAGON'S BLOOD.—A few parcels sold "without reserve," very common dull broken pipe (1883 import) at 80*s.*, very good saucers, out of reed, at 150*s.* per cwt.

GUM ELEMI.—27s. is the lowest price for good whitish gum.

GAMBOGE.—The sales include good yellow pipe, partly blocked, at 12*l.* 5*s.*; block, dull coated to good yellow at 11*l.* 5*s.* to 11*l.* 10*s.*, and good yellow pickings at 10*l.* per cwt.

GUM KINO.—A parcel of good siftings sold at 39*s.* per cwt.; a low price.

HONEY.—Nothing doing.

IPECACUANHA moves off well at somewhat better rates, 2*s.* 10*d.* to 3*s.* 4*d.* for lean and woody to very good annulated root. Fine selected is held at 4*s.* 3*d.* per lb.

LIQUORICE ROOT.—Stout, rather dull coloured root from Bagdad is held at 18*s.* per cwt. The quantity of Syrian root which will be exported this year from the ports of Suedich and Alexandretta is estimated at 6,000 tons, at an approximate value of 38,000*t.*

MANNA.—Demand for old stuff is quiet. Large selected flake in 20-lb. boxes quoted at 2*s.* 5*d.*, and in usual boxes at 2*s.* 3*1*/*2**d.* per lb. Sorts, 1*s.* 4*d.* per lb., all f.o.b. Messina. Gathering in Sicily will commence about August 15, and promises favourably. No prices are yet fixed for the new crop.

MARKING NUTS.—A parcel of 19 bags imported from Calcutta was placed in auction, but did not sell.

MOSS.—We understand that the *Japan Moss* to which we called attention in our two last reports still remains unsold. In public sale a parcel of 14 bales *Irish Moss* of rather dark colour was offered, but had to be bought in at 14*s.* per cwt.

MUSK sold at lower rates, and the demand is slack. *Tonquin*, first pile, slightly damp pods, but very good yielding, having only a small underskin, realised 71*s.* 6*d.* per oz.; ordinary first pile, 59*s.* 6*d.*; good, but false packed, third pile, 30*s.* to 30*s.* 6*d.*; and a bottle of fairly dry, grained *Assam*, 44*s.* 6*d.* per oz.

OILS (ESSENTIAL).—*Cajaputa* is held at 3*s.* per bottle. *Camphor*, pale and dark mixed (pale predominating) at 3*d.* per lb. *Cassia*, unworked, at 2*s.* 8*d.* per lb. (2*s.* 6*d.* being offered). *Citronelle* remains unaltered. For Winter's brand, of which a few cases were placed in sale, 1½*d.* per oz. is solicited, and 2½*d.* per oz. for *Lemongrass* of the same brand. *Sassafras* is held at 1*s.* 8*d.* per lb. *Ylang-ylang* in good supply, far exceeding present requirements. In Sicily the market remains very firm, and prices are still quoted higher there than in London, where *Bergamot* is now offering at 8*s.* to 9*s.* 6*d.*, according to quality; *Lemon* at all prices, from 5*s.* 9*d.* to 7*s.* 6*d.* per lb., one holder offering as low as 4*s.* 9*d.* per lb., and *Orange* at 9*s.* to 9*s.* 6*d.* per lb. for fine quality. In bergamot and orange a fairly brisk business is doing.

OILS (FIXED).—*Castor*, fine white East Indian firsts are held at 3½*d.* per lb., and some good firsts sold cheaply at 2½*d.* per lb. *Codliver.*—We notice that a broker solicits purchasers for 120 gallons good pale-yellow Newfoundland oil at 3*s.* 6*d.* per gallon. In sale some deep yellow Newfoundland was offered at 2*s.* per gallon—a decidedly cheap price.

OLIVE OIL.—Messrs. J. B. Gray & Co., of 7 Fenchurch Street, inform us that the Messina market is quiet and prices stationary. During last month the demand was especially brisk from Denmark and England. The weather in Sicily continues favourable to the growing crop. The Messina quotations are from 32*l.* 11*s.* 6*d.* to 33*l.* 15*s.* per ton. The total shipments of olive oil from Messina from January 1 to July 31 were 1,125 tons in 1886, 153 tons in 1885, and 2,490 tons in 1884. The English market is quiet, sales being only of a retail character.

OPIUM.—Several further shipments of the new crop have come to hand, and confirm the statement that it compares favourably with that of last year in quality and appearance. One or two parcels of new *Salonica* are held at 10*s.* to 12*s.* per lb.; *Guévé* at 8*s.* 6*d.* per lb., but the article remains inactive. No real druggists' opium of the new crop has yet been received. *Persian* opium is the only variety in which any business worth mentioning has been done, and which is firmly held at 13*s.* per lb. The new supply of this variety will not arrive until November.

ORRIS ROOT.—Three casks *Florentine* root sold cheaply at 21*s.* 6*d.* per cwt. This root appears in small fragments, possibly the cuttings obtained in manipulating the root. Very fine bold *Florentine* root is offering at 39*s.* to 40*s.* per cwt.

PAREIRA BRAVA.—Thirty bags spurious root (*Cissampelos pareira*), imported in 1884, sold at 50*s.* per cwt.

RHUBARB is offering plentifully, the supply in auction amounting to nearly 200 cases. Very little was, however, sold, and prices are, if anything, again cheaper. Fine *high-dried* root, pinky fracture, medium to bold, sold at 1*s.* to 1*s.* 2*d.*; middling to fair *Shensi*, pinky fracture, round, at 1*s.* 1*d.* to 1*s.* 7*d.*; ditto flat, partly spongy, at 1*s.* 3*d.* to 1*s.* 6*d.* per lb.

SARSAPEARILLA easy; sales are extremely unimportant.

ANISEED is fairly firm for fine qualities, and 46*s.* to 47*s.* is asked for Alicante, while Italian seed is held at 38*s.* to 44*s.* per cwt. The Russian crop has suffered by rain, and shows but a poor quality. This can hardly be without influence on the prices for finer sorts.

CARAWAYSEED has not given way in price to the extent many expected. The very poor yield of the Russian crop this year has caused a corresponding larger demand for Dutch seed, and this, in addition to a continued flow of heavy orders for all parts of the world, has not only stopped any further decline, but seems about to effect a rally. 26*s.* to 26*s.* 6*d.* per cwt. ex warehouse is now quoted for best Dutch seed, 25*s.* for inferior, and 20*s.* for Morocco.

CUMINSEED is steady at 38*s.* for Malta, and 17*s.* to 22*s.* for inferior quality.

FENNELSEED steady at 18*s.* to 20*s.* per cwt. ex warehouse.

FENUGREEKSEED keeps steady. The supplies from Morocco will apparently be very limited, and prices for fine seed have advanced to 7*s.* 9*d.* per cwt. Egyptian is held at about 1*s.* less, and no fresh supplies can be expected from that quarter this season.

MUSTARDSEED.—White, scarce, and held at 11*s.* to 13*s.* per bushel. Brown Bombay 5*s.* 6*d.* per bushel.

SENNA is almost the only article of which the price shows some improvement: full rates being paid in auction for the few parcels sold. The bulk of the supply consists of low to middling Bombay leaves, which realise 3*d.* to 4½*d.* per lb. Senna continues to advance in Egypt; nothing is coming down from the interior. The small supply still in stock is held at an advance of 15 per cent.

WAX.—*Beeswax* sells very well at previous rates. *Japan vegetable wax* is quiet and little business doing. For a parcel of slightly yellowish squares 55*s.* is demanded, which seems rather high.

AMERICAN TRADE REPORT.

(Cablegram from our Correspondent).

NEW YORK, August 19, 1886.

BALSAM OF TOLU (in 10-lb. tins) has been in demand, and prices are advancing. Sales have been made at 30*c.*, which would correspond with 1*s.* 4*d.* on the London market.

COTTON SEED OIL (summer refined) is now a lively market. Considerable business has been done this week, and prices have gone up rapidly.

SENEGA ROOT (Western), ordinary quality is in abundant supply, and quotations are easier. The lower rates have brought forward considerable orders which have been waiting to be filled. Sales at 40*s.*—say, 1*s.* 11*d.* net in London after all allowances and charges have been made.

QUININE.—Without being very brisk the market is firm; prices have not changed since last report.

PEPPERMINT, OIL OF.—Notwithstanding reports put forward by interested speculators the market does not lose its firm aspect, and prices here are very steady.



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

German v. English Surgical Instruments.

SIR,—In reply to yours of last night, my candid opinion of hypodermic syringes, clinical thermometers, and ordinary thermometers of German origin is a very poor one. All round they are to a great extent incorrect, the syringes and clinicals especially so. On demonstrating the incorrectness of some German syringes to Dr. Joule some months back, he suggested I should write to the medical press; but as I considered that no decent practitioner would set up with a cheap syringe I did not do so, and should not have said anything had not the same class of things that had so deceived me been vaunted as a joy for ever.

I had a medical practitioner bring one less than a month ago, as the hinge of the case was out of order and wanted repairing. I tested it, and found for a cylinder of supposed 20 minims capacity it held 32 minims. I have one now holding 28 minims instead of 20, one for 5 minims holds $7\frac{1}{2}$, and so on in proportion; in very many instances they hold 30, some 32. I have declined to sell them latterly, and would not part with one on any account unless I had previously verified it. I test them with a Toogood's verified 30-minim tube, which I have also verified myself.

Of clinicals we have sold hundreds. Few chemists keep them; in fact, till recently I don't think anyone within a mile had them, but as we have a very prominent spot, and keep everything from a penny teat to a 15/- water-bed we keep them in variety. We supply the Children's Hospital and also the District Association of Nurses (Paddington and Marylebone branch), and also get a good deal of patronage from the St. Helena Home for Trained Nurses, and have sold many to local practitioners, and also medical men when in the neighbourhood, in more than one instance, when they have met with an accident with the one they carried. I gave 28s. per doz for German, and have had the same at a much higher rate from English houses; but now when anyone will pay the difference in price I am sure they will have the satisfaction in the article. I sell what I can of the best English make in preference to foreign; they are well finished and reliable. One of my assistants sold a German clinical to a nurse attending a lady invalided from India a week ago; she had been advised to pay an extra shilling and have the English as preferable, but did not do so. The temperature varying apparently the practitioner in attendance thought it somewhat strange, so inserted it alongside a Kew verified he had, and found a variation of nearly 3 degrees. She came last night to ask if it might be exchanged for the one recommended and of English manufacture. I have always found the index of the foreigner soon go wrong, which was another annoyance. Some ordinary foreign thermometers I have found very fair, but many far from it.

Cut bottles (smelling-salts and perfumes) are largely sold. We keep some first-class English from 2s. to 15s., and I have one I keep more as a curiosity at 2l. 2s., but on account of the wide difference in price there are fifty Germans sold to one English, although the stopping is very faulty, but certainly much better than they used to be. They imitate all the best English patterns, and the average customer cannot see the difference, and also there are now some sent in the

rough and stoppered here, which still makes a more presentable bottle.

German transparent soap with very little exception is the most wretched stuff ever made, but its use is not an unmitigated evil, as it necessitates sooner or later the application of some cooling and soothing lotion to the abraded and inflamed cuticle. Anyone supplying it when asked for soap is as great a sinner as anyone supplying a stone when asked for bread. I am pleased to see there are few chemists with any pretence to respectability supplying it now; the trade in it may well be left to the cutting draper and slovenly oilman.

When good things are required they must be paid for; foreign articles of good merit are as dear or dearer than English. German pill boxes are strong and very good; they are dearer than English. I pay for best Higginson's syringes, far better than any English in the market, about 9s. per dozen more; they are from Paris, and are for finish and durability A1. Some American syringes are very good, but are certainly not lower in price than English. Vulcanite syringes, caustic cases, nasal douches, insufflators of German origin are much cheaper, and certainly as good as what are sold by English firms, but that is most likely due to the fact that the distribution is practically, so far as the drug trade is concerned, very much monopolised by a very limited number of firms. Foreign toothbrushes are no use at all, low priced and nasty. Looking on the window-case just now, I see six German thermometers, black (ebonised with white figures)—one says 68° and two say 70° F., 2, 72 $^{\circ}$, and the other 74 $^{\circ}$; that is about the usual thing. There are nine English make within two yards which all stand at 68 $^{\circ}$. It seems pretty clear from this that in the small details, as in other businesses so in ours, the German fails.

Faithfully yours,
452 Edgware Road, Aug. 18. W. WINDLE & CO.

SIR,—Replying to your inquiry as to my letter in the *Daily Telegraph* on the subject of foreign competition, I do feel that it is a somewhat serious matter that almost every trade is now flooded with foreign goods. Until recently the chemists and druggists' business was little affected by it, but now to buy in the best market one is compelled to place his orders with German houses. Although ours is only an average retail business, we send our periodical orders to Cassel (Germany) firms, and by so doing find we can effect a very considerable saving. While in many things they excel home-made articles, in some few they are not so well made, notably their steel goods, but in all cases there is a decided superiority of style and general attractiveness. We took the little hypodermic as a typical article, but we might have chosen vulcanite goods, glassware, thermometers, sprays, trusses, paper boxes, &c. The fact is many of the dealers or middlemen in London and elsewhere are selling immense quantities of these goods, realising double the profit they would be able to make on English wares. Take the syringe I have quoted as buying (not from the maker but the foreign dealer, who doubtless makes his profit) at 24s. per doz.; we have actually had these offered to us by a London dealer at 54s. per doz. What does this prove? Simply that the dealers believe it to be comparatively worth that sum, knowing that the English makers will not produce an article even at double or treble the price. Is it to be wondered at that we hear of trade depression in all our manufacturing districts? The Government returns for imports of manufactured articles give us the key to the whole question. Year by year more manufactured goods come into this country and proportionately less go out. One word with regard to the question raised by one of our surgical instrument makers. Messrs. W. Windle & Co. say these syringes err by an excess measurement of 50 per cent. Nearly the whole of the first consignments of these syringes were graduated to the all but universal metric grade, i.e., tenths of a cubic centimetre corresponding to tenths of fifteen drops, or a drop and a half to each gradation. It is no error or carelessness of the German to do this, but such is the readiness to meet our market that the syringes now coming over are actually graduated to our English fashion of old.

Respectfully yours,
50 Oxford Street, Southampton. WILLIAM BATES.
Aug. 17.

Given up by the Sea.

SIR.—We regret very much that neither Messrs. Horner & Sons nor Messrs. Lewis & Peat saw fit to advertise the sale of the gum benjamin in your Journal. We think with you that had they done so there would have been more competition at the auction for the article.

Reverting to our letter of April 7, and your remarks on the subject of the gum, we have to thank you for drawing attention so prominently to it and its extraordinary recovery. We feel sure that but for the publication of the letter and your article the gum would most likely have attracted little or no attention.

Since our last shipment we have received a further lot of about 4 cwt., which will probably be the last that will be excavated from the sunken wreck, as the divers are unable to remove the large and increasing accumulation of sand which covers the remnant of the cargo. We have also been fortunate enough to secure the other lid of one of the cases to which we referred in our letter; and we propose shipping it with the remainder of the gum, so that the curious and incredulous may feel satisfied as to the genuineness of its age. It will be seen from the copy of the inscription on the lid which we annex, that the word Cabeff has here been contracted to CaB, and that the number of this case was 214. Assuming that the case numbered 143 (*vide* our previous letter) was the first of the shipment, and that this one (214) was the last, it will at once be seen that the total shipment consisted of at least seventy-two cases, containing about 10 tons net weight of gum benjamin.

We are, yours truly,

J. T. POCOCK & CO.
6 Shortmarket Street, Cape Town, C. G. Hope.

The following is the inscription on the lid alluded to:

N° 214		A° 1691
CaB ^a Benzúin		
Netto	330 lb	
tarra	62 lb	
Bruto	362	

The Photographic Trade.

SIR.—I agree with the statements of your more recent correspondents that the sale of photographic chemicals does not pay the retail pharmacist. Even the most ardent advocates amongst us for the general diffusion of knowledge could scarcely keep down a dissatisfied, not to say a blood-thirsty, sensation, when after he has volunteered a lengthened lecture on the latest improvements in photography he is asked for $\frac{1}{2}$ lb. of hyposulphite of soda for 1d. Nor is it calculated to inspire holier thoughts when a man is offered 1s. per oz. for pyrogallic acid, when on reference to his wholesale list he sees it quoted at 1s. 3d. And I trust, sir, that a pilgrimage to Mecca is not necessary for the language I used this afternoon when I was requested to accept the tender of 1d. for $\frac{1}{4}$ oz. of nitrate of silver.

Yours, &c.

ANOTHER UNFORTUNATE. (189/55.)

Medicine Case Competition.

SIR.—Kindly state if each of the prize-takers managed to put the whole of their matter and illustrations on one post-card. If they did, the cards must be interesting as specimens of calligraphy.

HEDER.

[They were not all on postcards.]

DISPENSING NOTES.

[*The opinion of practical readers is invited on subjects discussed under this heading.*]

SIR.—The liniment dispensed by Mr. Vint might be expected to blister, and unless he had the original prescription the quantities may have been interchanged, for

Aacetum canth.	..	..	..	..	5ij.
Sp. camph.	..	..	..	..	5vj.

would be powerful enough for the purpose required, or

Tinet. canth.	..	..	..	..	ij.
Sp. camph.	..	..	..	..	5ij.

may have been intended. The fault is not in the quality of the drug, or the "Croydon" liniment should have the same characters and produce the like result.

The compound published by "Pharmacist" is frequently asked for in "pen'orths," the inference being obvious. Although "Pharmacist" did not feel inclined to supply it at the prices attached, he might have added:

Amor Christianus	fl. 5ij.	1d.
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for I consider he was far from justified in imputing a want of competency to his more modest brethren in trade as a means of asserting his own qualifications and securing a higher rate of remuneration for his services.

56 Everton Road, Liverpool, Yours obediently,
Aug. 17. JAMES PHILLIPS.

SIR.—Permit me to suggest to Mr. Vint that the variable action of the acetum cantharidis which he describes may be explained by the fact that cantharidin exists in the beetles in proportions varying between 0.17 and 0.57 per cent., according to Stillé and Maisch, or, as given by Professor Attfield, from 4 to 12 parts per 1,000.

Dover, August 14. Yours obediently,
J. F. BROWN.

SIR.—In reply to Mr. Vint, of Hastings, we think the difference between his preparation and that obtained from the Croydon chemist is that the latter probably used "lin. camph." whilst he used "spir. camph." We have had a similar prescription in to-day, and on first reading two out of three of us were in favour of "lin."; but after comparing with the other parts of prescription decided in favour of "spir."

We enclose tracings which show the capital letters that led us to this conclusion.

We therefore consider the Croydon chemist wrong, but fully exonerate him on account of the very indistinct writing.

Yours truly,
RICHMOND. CLARKE & HORNBY.

[We append a fac-simile of the tracing sent.]

Town versus Country Chemists.

SIR.—Chemists in the country are frequently told by their customers that they were recommended by their London doctor to take his prescription to a good London chemist. I say nothing about the injustice of such a proceeding, but will let the following facts speak for themselves:—A gentleman presented the prescription as below to be dispensed, saying as he did so that the doctor, one of the most eminent London physicians, had told him to take it to a good London house. The prescription was therefore taken to one of the "Historic Houses of Pharmacy," with this curious result. In the first place the ointment was labelled "To be applied every night and morning" instead of "To be applied every night as directed." This the patient himself noticed and mentioned. In the second place the mixture was sent out quite dark; in the patient's own words, "It was as black as his umbrella." It was difficult to explain to him the difference in colour, my mixture being of course golden yellow.

I will not attempt to account for the difference; it may have been a wrong ingredient used, or it may have been mere carelessness in using a measure in which some iron preparation had been measured previously. But in any case, where was the superior skill or care shown by the experienced and first-class London chemist? It is to be hoped that medical men and the public generally will before long recognise the fact that chemists in the country, being fully qualified by examination, are at least as qualified to dispense as those in London. Judging from this example (and it is no solitary one), it is a question if they are not more so.

Chertsey.

PHARMACEUTICAL CHEMIST.

Spt. ammon. arom.	..	..	..	..	3ij.
Potass. iodid.	..	..	..	..	9j.
Tinct. quiniae	..	..	..	..	3iss.
Aq. chloroform. ad	..	..	..	..	3viiiij.

M.

A sixth part twice daily between meals.

Ext. belladou.	..	..	..	..	3ss.
Ung. hydrarg.	..	..	..	..	3ss.

M. ft. ung.

To be applied every night as directed.

SIR.—I shall be obliged if you will tell me through your valuable paper if the following mixture should be dispensed with or without a sediment.

Liq. peptici (Bengier's)	..	..	..	..	3ij.
Soda bicarb.	..	..	..	..	3iv.
Glycerini ..	..	..	..	..	3vj.
Inf. quassiae ad	..	..	..	..	3viiiij.
Ft. mist.	3ss.	after each meal,	in a wineglassful of water.		

I had occasion to dispense the above, which became perfectly clear in half an hour after putting all the ingredients together. On adding the liquor pepticus to a solution of the soda effervescence took place, so that previous to leaving the bottle ready to hand out all effervescence had ceased, and the soda was completely dissolved by rubbing for some time in a mortar. However, the customer returned it, saying that the mixture should have had a sediment about $\frac{1}{8}$ of an inch thick, as it had on some previous occasions.

I may also mention that Squire gives the solubility of bicarbonate of soda in water as one in ten.

Faithfully yours,
TRUTH.

Giving Copies of Prescriptions.

SIR.—Surely half a crown is a proscriptive price to charge! I have known a shilling asked for a copy, but I believe that chemists, as a rule, give copies gratis.

HEDER. (27/199.)

SIR.—I think "Prescription Copy's" suggestions are fair, but there are customers we could not well charge without the risk of driving them into our competitor's shop, therefore we have to do many little things to oblige a *regular* customer. On the other hand I would suggest that a charge of say 1s. ought to be made to any *chance* customer who may require a copy of a prescription; that is, if they only want a prescrip-

tion copied, and not dispensed. But if they are having it dispensed, and the prescription has become worn, or nearly obliterated, and they would like a copy, I think we could do that to our advantage without making a charge.

Yours truly,

Low Fell, Gateshead.

R. SHEEL.

199/36. *Sub Umbrā Floresco* asks the following:—

(1) What should be dispensed when Extract Aloes Glacial is prescribed?

[Corbyn & Co. are makers of a preparation which goes under this name, and is occasionally found in old prescriptions with the name of the makers added to it. We understand that it is a carefully prepared extract of socotrine aloes.]

(2) What is the dose of calcii chloridum? B.P. gives 3 to 10 grains, Squire the same, while Martindale has it from 10 to 20 grains?

[B.P. 1867 gave 10 to 20 grains as the dose. The salt is most commonly administered as a syrup—80 grains of the crystallised salt, to the ounce—and of this from a teaspoonful to a dessert-spoonful is given to children of from ten to fifteen years, and to adults in proportion. As much as 30 grains of the B.P. salt—containing 2 molecules of water—is given to adults. There is no doubt that the larger dose really referred to the old muriate of lime, which was the crystallised chloride. It is a much better salt for dispensing.]

Dispensing Prices.

SIR.—The instance quoted by "Pharmacist" in last week's issue of your valuable paper is one I often meet with, and which I need hardly say I steadfastly refuse to acknowledge, always getting full price or refuse to dispense. The same treatment is applied to those recipes culled from the *Family Doctor* and other precious periodicals. We can trace some of these low-priced things to disaffected members of the trade, and young gentlemen on a visit to their friends, who, by way of ingratiating themselves, state prices of things, and what the profit should be, &c. Besides enemies in our camp not a few may be found in gentlemen that have left the drug trade for some other calling. No doubt the information imparted is given with the best intention, the ultimate result being overlooked. Prejudice of the public is not our least enemy; it behoves one and all having the interest of the trade at heart to look to the prices and be careful how much knowledge they scatter to the damage of their brethren. The object of this letter is to support "Pharmacist" in his appeal. I am convinced the thinking portion of the public do not appreciate cheap physic. By refusing to dispense at such prices we at once confer a benefit on the public, the trade, and ourselves.

August 17.

THAMIS. (199/18.)

LEGAL QUERIES.

199/31. *F. W. D.*—Undoubtedly the bottles containing cyanide of potassium must be labelled and signed for.

3/198. *R. M. R.*—We must again repeat our refusal to advise whether this or that label is or is not an infringement of some one else's label. We can only say that it is quite properly dangerous to use a label which may lead an ordinary customer to think he is getting an article which he is not getting. You will find Horsford's Acid Phosphates regularly advertised in this Journal.

199/50. *Sick Assistants.*—*Misunderstanding* writes:—"Would you be good enough to say in your answer to correspondents if an assistant is ill and incapacitated from business, and leave of absence granted, a medical certificate having been obtained, whether the employer is justified in deducting from the salary the three weeks of absence, at the time the leave of absence being given no remarks as to payment being made by either party. What is the custom of the trade on this point?"

In the absence of a specific understanding an employer is not, under ordinary circumstances, legally bound to pay salary

to assistants for the time when they are incapacitated, by illness or other causes, to fulfil their obligations. Employers do usually pay for short absences of this kind, but the proceeding is by no means so fixed and certain, so fully recognised and so consistent with justice, as it must be to be an established "custom of the trade."]

In answer to 196/92, Mr. F. Coates, New Basford, says:—"No justices' or excise licence is required for the sale of spruce black beer;" 35 & 36 Vic., chap. 94, sec. 72.

Trade Mark Law.

20/199. A Yorkshireman writes:—"Can you tell me how to proceed to get to know whether anyone has registered a certain label under the Trade Marks Act? Before going to the expense of costly labels and advertisements I want to see whether anybody has already adopted the title that I propose using."

[By personal application at the Trade Marks Office, Southampton Buildings, W.C., you can have a search made for 1s. Or you can apply for registration of your mark, paying a fee of 5s., and then the Registrar will himself see that the title has not been previously appropriated, and will advise you if for that or for any other reason he regards the mark as unregistrable. But you will not get your 5s. back in that case.]

"Sale or Return."

SIR,—Possibly some of your readers may be as ignorant as I was till lately of the risks they may incur under the so-called "sale or return" system. If so, my experience of the actual working of that system in my case may prevent others being led into the same pitfall as myself.

Last January, in consequence of a circular from a firm of dealers in veterinary remedies in the North, I wrote for a sample case of goods on sale or return for six months, and received a large case with invoice of goods to the value of 47. 19s. Though advertised at considerable expense, the goods did not sell to any great extent, and I returned the bulk of them six months and four days after receiving them, paying at the same time for the goods not returned.

To my surprise I received a curt reply from the manager declining to receive them, as the terms were six months, and saying they would remain at the railway stores at my risk and expense. Legal opinion was taken, and I was informed that I had no option but to pay the full amount claimed. This was, therefore, done, and the manager was then asked on what terms he would take the goods back. In reply, he positively refused to take them back at any price, his letter containing the words, "We cannot take back any goods."

If you think fit you are at liberty to publish the above in the interest of the trade. If mine is a common case, it is so much the more important that no one should remain ignorant of the liabilities he may unwittingly assume.

H. P. (199/54.)

[If our correspondent had read carefully THE CHEMIST AND DRUGGIST he might have saved himself the loss he describes. On March 20 we published a report of a case in which some proprietors of veterinary preparations claimed from an agent at Worcester under just such circumstances as "H. P." narrates. In that case the manufacturers were defeated. The next week we published a letter from a correspondent who had had to pay. Many people, like our present correspondent, will only learn from personal experience.]

Apprenticeship.

I have an apprentice who is almost beyond control; he is idle, careless, and dirty, takes no interest in the business, wastes twice the usual time allotted for meals, gets to business often a half-hour behind time. On Bank Holiday, if I require him for a short time, never comes near me, although I give him the promise he can have that amount of time at another period. What can be done with him? Can I have his indentures cancelled, or (as I have been recommended) should take out a summons against him for willfully disobeying me? Any help will be thankfully received.

PERPLEXED.

[Your remedy depends upon so many circumstances that you do not tell us that we cannot advise you. For instance, you can only proceed by summons before a magistrate if the premium did not exceed 25*s.* Whether the proof of misconduct is strong enough to justify the cancelling of the indentures is a difficult question. It would be better to first consult with the boy's parents or guardians, but if no improvement results, consult a solicitor before taking any legal steps.]

46/197. D. W.—You may keep benzoline without a licence if in securely-stopped glass, earthenware, or metal vessels, each of which does not contain more than a pint and if the aggregate quantity in stock does not exceed three gallons.

MISCELLANEOUS INQUIRIES.

56 199. Junior.—There is no such thing as spiritus limphor. You have apparently misread phosphor or camphor for this. The following is a formula for

SPIRITUS PHOSPHORI.

Phosphorus	..	..	..	..	1 gr.
Oil of peppermint	..	..	..	..	2 drops
Sulphuric ether	..	..	..	..	3 drachms
S. V. R. (60 over proof)	..	..	..	..	5 drachms

Dissolve the phosphorus in the ether by digesting for twenty-four or thirty-six hours, shaking frequently, then add the spirit and oil of peppermint.

24/7. Nil Desperandum.—A green colour may be imparted to oil of bergamot by keeping it in contact with copper filings for a day or two. Oil of peppermint may be coloured with sage green or dried mint leaves.

56 199. Junior.—The Mealy Bug and other insects in hothouses are best got rid of by syringing with an infusion of tobacco. We have had excellent results this year on rose trees by using a nicotine which Mr. T. Christy gave us, about 6 drops to a gallon of water.

51/197. Y. P.—If by levigated white marble you mean the finely-powdered marble used sometimes for the production of gas for aerated waters, you can get it from Barnett & Foster or Brathy & Hinchliffe. It is sold in 3 or 4 cwt. casks, costing 4*s.* or 5*s.* per cwt.

Polisher.—White Shellac is best kept in water, but even then it changes through time, and becomes insoluble in ordinary solvents; certainly stock eleven years old would be useless. We are not aware of any means for improving insoluble lac.

J. A.—Heading for Lemonade.—Messrs. W. J. Bush & Co., Artillery Lane, E.C., or Stevenson & Howell, 95A Southwark Street, S.E., will supply you with preparations for the purpose. Tincture of senega and tincture of quillaia are also employed.

67/199. H. S.—We do not know a Latin dictionary "particularly suitable for chemists and druggists." Inc's Latin grammar gives a full vocabulary of medical Latin.

198/10. Nemo.—Brush and Sponge Powder is simply a cleansing or soap powder, such as is sold at about 4*d.* per lb. Several of these are advertised in this Journal, and you cannot be wrong with any of them.

197/63. Magnolia.—Soluble Essence of Ginger.—See page 95, July 17.

197/29. J. Macdonald (Dundee).—Read Gerrard's "Materia Medica and Pharmacy" (published by Lewis), and Inc's "Latin Grammar" (Baillière).

197/32. *Constant Reader.*—**Pepsin Wine.**—The direction to decant as much of the clear solution as possible is to reduce filtration to a minimum. It is very troublesome to filter, and requires frequent changing of the filter-paper. If the sherry is unusually weak in spirit, the addition of an ounce of rectified spirit is an advantage.

193/33. *Novocastrian.*—Cassells & Co. published an illustrated work on "Familiar Wild Flowers" in monthly parts, at 6d., which is very good. Brook's "Botany" is very cheap—2d. a number—but somewhat antiquated. You should get a small text-book to begin with, such as Balfour's "Elements of Botany."

124/31. *Dens* is asked frequently for Saltite, which, he understands, is used by birdfanciers as a radical cure for gape. Can any reader give the information?

198/31. *Chocolate.*—**Port Wine Stains** can be removed with solution of chlorinated lime, applied sparingly.

68/195. *Castilian.*—We regret that we cannot assist you in the matter to which you refer.

Mr. W. Tite Frost (Oxford), who, it may be remembered, has complained that he was excluded from competition for the Pharmaceutical Society's Herbarium Prize through his not being associated with the Society, writes now to point out that, had his herbarium been received, the silver medal would have been awarded to him, as his collection consisted of 551 species, or nineteen more than were in the collection for which that distinction was granted. Among Mr. Frost's specimens were, he adds, some very rare ones, such as *Daphne mezereum*, *Thlaspi perfoliatum*, *Ophrys apifera*, *O. muscifera*, &c.

24/196. *C. T.* writes:—Your Market Report is very good. I can save subscription to THE CHEMIST AND DRUGGIST many times over. I have frequently made money by it, and never lost any. Same correspondent says:—Lamplough's is not the only explosive saline, as I have had two explosions with Southall's, of Birmingham.

Colouring Billiard Balls.

SIR,—I have followed the process of your correspondent in the issue of August 8 for a long time, but with an aqueous solution of magenta, and found it to answer excellently well.

THAMIS.

Emplastrum de Minio.

SIR,—Your correspondent who gave us an interpretation of the old names in the recipe for "Gethering Salve" does not appear to be acquainted with the old "Deminton." It appears in some of the wholesale lists, and is still used freely.

HEDER.

SIR,—The paragraph in your last respecting mithridate brings to my recollection another confection which used to be sold in the Midlands. It was called "Calico Strainer." Can you tell me anything respecting the origin of the name? The confection may have been purely local for anything I know.

[Was "calico strainer" a far-gone corruption of confection of senna?—ED. C. & D.]

199/6. *J. Williams.*—**Schlippe's Salt** is a double sulphide of antimony and soda. For method of preparation and probable composition see THE CHEMIST AND DRUGGIST, April 3, page 279.

199/29. *Mauchs.*—Formula for Apotheker Rich. Brandt's Schweitzer Pillen.

Will some correspondent kindly say where Squibb's extracts, as recommended for bromidia (substitute), are to be obtained? My wholesale firm have been unable to supply them.

CYCLIST.

Coca for Cyclists.

In reply to "C. G.," as regards coca being of use in bicycling, my experience is that it is worse than useless. I have tried it in all; with Evans, Lescher & Co.'s Liquid Extract, half-drachm doses making my head ache very much, drachm doses making me quite stupid. The best results in bicycling, as in other athletics, no doubt depend upon the amount of training, in every sense of the word. I have won a great many prizes, but never by the aid of coca.

CYCLIST.

Liquor Santal Flav. Comp.

SIR,—I should like to know the best way of combining copaiba, cubeb, buchu, and santal oil, so as to be brightly miscible with water.

Yours truly,

W. F. B. (197/50.)

[Many would like to know this, and requests have been repeatedly made through these columns. Several formulae have already been given, but none with all the ingredients desired. We can only say that the plan followed in making soluble essence of ginger seems the most reasonable one to follow in this case; that is, to make an alcoholic solution of the copaiba, and the oils buchu and santal with some cinnamon oil to flavour, and render this miscible with slaked lime. Afterwards the filtered solution should be added to tincture of buchu. These are only suggestions, and we must ask readers to experiment and let us know results. It may be better to use soluble copaiba in the first instance; directions for the preparation of this are given in our DIARY for 1884.]

199/39. *I. T.*—**Frémy's Method of Plant Analysis.**—This is applicable to vegetable tissues only, and was devised by Frémy and Terreil. Cellulosic matter is estimated by digesting a weighed quantity, 1 gramme or so, of the dried substance in chlorine water for thirty-six hours, whereby ligneous tissue is dissolved completely, and "incrusting matter" partially, the remainder being converted into an acid soluble in potash. Therefore the cellulosic residue mixed with "incrusting matter" is next treated with potash solution, then washed with acid and with water, and dried. Ligneous tissue or cuticle is separately determined by digesting 1 gramme in sulphuric acid for thirty-six hours, washing with potash solution and with water, and drying. Incrusting matter is estimated by difference.

"Acid of Vitriol."

SIR,—In reply to "J. M.'s" (193/49) query in last week's issue I should think gum asafætida was wanted. I have been asked for it occasionally by cabmen to rub on the horse's bit when off feed, and should imagine that "acid of vitriol" was the "nearest hit" they could make to pronouncing asafætida.

Yours truly,

A. P.

In answer to "J. M.," ferri. sulph. is sold for acid of vitriol, and used in the way described, for horses.

Yours truly,

R. SHEEL

F. Stevens writes:—"Acid of Vitriol, sold in lumps, is asafætida. The former name can be easily made to sound like the latter, and the gum is often sold for the purpose mentioned."

W. H. Willson says:—"Asafætida is used by carters in Wiltshire for the same purpose, and is probably what was wanted."

"Cupri Sulphas is what is wanted; I have known it used as stated, but is very dangerous." C. J. (Barnsley).

"Asafætida mispronounced."

J. S. (Southall).

J. Phillip (Liverpool) says the article is probably zinci sulph. com., more frequently known as white vitriol.

SIR,—I have known citric acid given to horses for their appetites. Perhaps this is the acid used by costers, the name being taken from the oil of vitriol formerly given to horses.

HEDER.